





# Demand-Side Management 2011 Annual Report

March 15, 2012



#### Photo Captions

Top Photo:

Courtesy of the Idaho Central Credit Union

The Idaho Central Credit Union's corporate office in Chubbuck, Idaho incorporates numerous energy efficient measures provided through Idaho Power's Building Efficiency program.

#### Middle Photo:

Idaho Power offers an energy efficiency program and a demand-response program for irrigation customers.

#### Bottom Photo:

Idaho Power offers numerous energy efficient programs for residential customers.

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# **LIST OF SUPPLEMENTS**

Supplement 1: Cost-Effectiveness

Supplement 2: Evaluation

NEEA Market Effects Evaluations (included on CD with Supplement 2)

#### **GLOSSARY OF ACRONYMS**

aMW—Average Megawatt

A/C—Air Conditioning

ACB, Inc.—Advertising Checking Bureau, Inc.

AMI—Advanced Metering Infrastructure

ARRA—American Reinvestment and Recovery Act of 2008

B/C—Benefit/Cost

**BCA**—Building Contractors Association

BCASEI—Building Contractors Association of Southeast Idaho

BCASWI—Building Contractors Association of Southwestern Idaho

BOP—Builder Option Package

BPA—Bonneville Power Administration

CAES—Center for Advanced Energy Studies

CAP—Community Action Partnership

CAPAI—Community Action Partnership Association of Idaho, Inc.

CAIS—Certified Agricultural Irrigation Specialist

CBSA—Commercial Building Stock Assessment

CD—Compact Disc

CEERI—CAES Energy Efficiency Research Initiative

CEI—Continuous Energy Improvement

CEL—Cost-Effective Limit

CFL—Compact Fluorescent Lamp/Light

CHQ—Corporate Headquarters (Idaho Power)

CID—Certified Irrigation Designer

CIS—Customer Information System

COP—Coefficient of Performance

CR—Customer Representative (field staff)

CR&B—Customer Relationship and Billing

CRM—Customer Relationship Management

CSR—Customer Service Representative (call center)

DHP—Ductless Heat Pump

DOE—Department of Energy

DRU—Direct Response Unit

DSM—Demand-Side Management

DSR—Demand-Side Resource

EA4—Energy Audit 4

ECM—Electronically Commutated Motor

EEAG—Energy Efficiency Advisory Group

EECBG—Energy Efficiency Conservation Block Grant

EISA—Energy Independence and Security Act of 2007

EM&V—Evaluation, Measurement, and Verification

ETO—Energy Trust of Oregon

EPA—Environmental Protection Agency

EUAT—Energy-Use Advisory Tool

F-Fahrenheit

FCA—Fixed-Cost Adjustment

ft<sup>2</sup>—Square Feet

FSC Group—Freeman, Sullivan & Co.

GMPG—Green Motors Practice Group

H&CE—Heating & Cooling Efficiency Program

HEMM, LLC—Home Energy Management, LLC

hp—Horsepower

HPMS—Heat Pump Measures Savings

**HPS**—Home Performance Specialist

HSPF—Heating Seasonal Performance Factor

HVAC—Heating, Ventilation, and Air Conditioning

ICL—Idaho Conservation League

IDL—Integrated Design Lab in Boise

IECC—International Energy Conservation Code

INL—Idaho National Laboratory

IOER—Idaho Office of Energy Resources

IPUC—Idaho Public Utilities Commission

IRP—Integrated Resource Plan

IRPAC—Integrated Resource Plan Advisory Council

IRS—Internal Revenue Service

iSTEM-Idaho Science, Technology, Engineering and Mathematics

kW-Kilowatt

kWh-Kilowatt-hour

LCD—Liquid Crystal Display

LCT—Load-Control Transponder

LED—Light-Emitting Diode

LEED—Leadership in Energy and Environmental Design

LEEF—Local Energy Efficiency Funds

LIHEAP—Low Income Home Energy Assistance Program

MBtu—One Million British Thermal Unit

MEF—Modified Energy Factor

MOU—Memorandum of Understanding

MHAFB—Mountain Home Air Force Base

MPER—Market Progress Evaluation Report

MST—Mountain Standard Time

MW-Megawatt

MWh-Megawatt-hour

NEEM—Northwest Energy Efficient Manufactured Housing Program

NEEA—Northwest Energy Efficiency Alliance

NEMA—National Electrical Manufacturers Association

NPCC—Northwest Power and Conservation Council

OPUC—Public Utility Commission of Oregon

OSV—On-Site Verification

PCA—Power Cost Adjustment

PCT—Participant Cost Test

PECI—Portland Energy Conservation, Inc.

PLC—Power-Line Carrier

PSA—Public Service Announcement

PTCS—Performance Tested Comfort System

QA—Quality Assurance

RAP—Resource Action Programs

RBSA—Residential Building Stock Assessment

RFP—Request for Proposal

RIM—Ratepayer Impact Measure Test

RS&E—Runyon, Saltzman & Einhorn, Inc.

RTF—Regional Technical Forum

RTUG—Commercial Rooftop Unit Work Group

Rider—Idaho Energy Efficiency Rider and Oregon Energy Efficiency Rider

SCCT—Simple-Cycle Combustion Turbine

SCO—State-Certifying Organization

SEE—Students for Energy Efficiency

SEER—Seasonal Energy Efficiency Ratio

SIR—Savings-to-Investment Ratio

SMUD—Sacramento Municipal Utility District

SO<sub>2</sub>—Sulfur Dioxide

SPSC—State Provincial Steering Committee

SRA—Snake River Alliance

SRVBCA—Snake River Valley Building Contractors Association

TOU—Time-of-Use

TRC—Total Resource Cost

TVP—Time-Variant Pricing

VFD—Variable Frequency Drives

UC—Utility Cost

US—United States

USA—Utility Service Agreement

W-Watt

WAQC—Weatherization Assistance for Qualified Customers

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#### **EXECUTIVE SUMMARY**

The pursuit of cost-effective energy efficiency is a primary objective for Idaho Power. Energy efficiency and demand response provide economic and operational benefits to the company and its customers. The enhancement of information and programs helps ensure customers have opportunities to learn about their energy use and participate in programs. As a result of a positive regulatory environment in 2011, Idaho Power was able to capitalize the incentives from one energy efficiency program and move \$10 million from the Idaho Energy Efficiency Rider (Rider) into the 2011 Power Cost Adjustment (PCA) in Idaho. Beginning in 2012, Idaho Power will recover demand response incentive expenses through Idaho Power-supply costs and reduce the Rider amount from 4.75 percent to 4 percent of base rates.

In 2011, demand-side management (DSM) activities focused on evaluation, savings, program participation, customer satisfaction, and energy efficiency awareness. Although Idaho Power's annual energy savings from its energy efficiency activities decreased in 2011, the amount of energy saved was enough to power more than 12,900 average homes serviced by Idaho Power. From Idaho Power's energy efficiency programs alone (excluding Northwest Energy Efficiency Alliance [NEEA] savings), the savings decreased 5 percent, from 172,292 megawatt-hours (MWh) in 2010 to 163,315 MWh in 2011. Annual energy savings for 2010, including the NEEA savings, were 193,593 MWh. In 2011, these savings slightly decreased to 179,424 MWh.

Since 2002, Idaho Power's DSM efforts have accumulated energy savings and demand response reduction greater than any other time in the company's history. Demand-reduction capacity for Idaho Power's demand response programs increased from 336 megawatts (MW) in 2010 to 403 MW in 2011. This represents over 12 percent of Idaho Power's record system peak of 3,214 MW. Total expenditures from all funding sources on DSM-related activities increased about 1 percent from almost \$45.8 million in 2010 to \$46.3 million in 2011.

Idaho Power's focus on program evaluation and program participant surveys in 2011 resulted in impact evaluations conducted by third-party contractors on four residential energy efficiency programs, one residential demand response program, and one industrial efficiency program. Additionally, Idaho Power completed third-party process evaluations on one irrigation program and one residential program. Idaho Power continued to participate with other research and evaluation organizations, such as NEEA, the State Provincial Steering Committee (SPSC), the Regional Technical Forum (RTF), and the Idaho Integrated Design Lab (IDL in Boise).

The percentage of customers who have a positive perception of Idaho Power's energy efficiency efforts continued to grow, indicated by the results of Idaho Power's 2011 quarterly customer relationship survey. Also in 2012, based on customer surveys conducted in 2011, Idaho Power received the highest customer satisfaction with business customers among western midsized utilities according to J.D. Power and Associates 2012 Electric Utility Business Customer Satisfaction Study in a tie with SMUD (Sacramento Municipal Utility District).

The *Demand-Side Management 2011 Annual Report* provides a review of the company's DSM activities and finances throughout 2011, outlines Idaho Power's plans for DSM activities, and satisfies the reporting requirements set out in the Idaho Public Utilities Commission's (IPUC) Order Nos. 29026 and 29419 as well as the Memorandum of Understanding (MOU) signed by IPUC staff and Idaho investor-owned utilities in January 2010.

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Idaho Power Company

#### INTRODUCTION

Idaho Power's *Demand-Side Management 2011 Annual Report* provides a review of the financial and operational performance of Idaho Power's demand-side management (DSM) activities and initiatives for the 2011 calendar year. The company provides a wide range of opportunities for all customer classes to be informed about energy use, to participate in programs, and to reduce their energy consumption.

Idaho Power's main objectives for DSM programs are to achieve all prudent, cost-effective energy efficiency savings and provide an optimal amount of demand reduction from its demand response programs as determined through the Integrated Resource Plan (IRP) planning process. Idaho Power also strives to provide customers with programs and information to help them manage their energy usage. The company achieves these objectives through the implementation and careful management of programs that provide energy and demand savings, and through outreach and education. When possible, Idaho Power implements identical programs in its Idaho and Oregon service areas.

Customer participation in Idaho Power's energy efficiency and demand response programs continues to remain strong, provide substantial energy savings, and increased demand reduction capacity. The energy savings exclusively from Idaho Power's energy efficiency programs in 2011 was 163,315 megawatt-hours (MWh). In 2011, the amount of energy saved from its programs was enough to power more than 12,900 average homes serviced by Idaho Power.

Demand reduction available from the demand response programs substantially increased in 2011. Combined, the Irrigation Peak Rewards, FlexPeak Management, and A/C Cool Credit programs resulted in an estimated summer peak reduction capacity of 403 megawatts (MW), which is almost a 20-percent increase from the available capacity in 2010.

In a continuing effort to fulfill the objectives of the Memorandum of Understanding (MOU) that was signed by Idaho Power, Idaho Public Utilities Commission (IPUC) staff, and Idaho's other investor-owned utilities on January 25, 2010, Idaho Power continued to use the same report structure each year. The report consists of the main document and two supplements. *Supplement 1: Cost-Effectiveness* shows all of the standard cost-effectiveness tests for Idaho Power programs and includes Table 2, which reports expenses by funding source and cost category. In 2011, the company continued its commitment to third-party evaluation activities. Included in *Supplement 2: Evaluation* are copies of all of Idaho Power's 2011 evaluations, evaluations conducted by its regional partners, all customer surveys and reports, Idaho Power's evaluation plans, and general energy efficiency or demand response research. In 2011, all Idaho Power energy efficiency programs were shown to be cost effective, except the Home Improvement Program. All of the company's demand response programs are cost effective from a long-term prospective; however, the A/C Cool Credit program was shown to not be cost effective from a one-year perspective for 2011.

#### **DSM Programs**

The programs within Idaho Power's energy efficiency and demand response portfolio are offered to all major customer sectors: residential, commercial, industrial, and irrigation. The commercial and industrial energy efficiency programs are made available to customers in either sector.

Idaho Power grouped its DSM activities in four categories: demand response, energy efficiency, market transformation, and other programs and activities. The other programs and activities are generally designed to provide customer outreach and education concerning the efficient use of

electricity. All of these activities are coordinated to advance Idaho Power's continued commitment to energy efficiency, demand response, and customer satisfaction.

Figures 1–3 show the historic energy savings, demand reduction capacity, and DSM expenses.

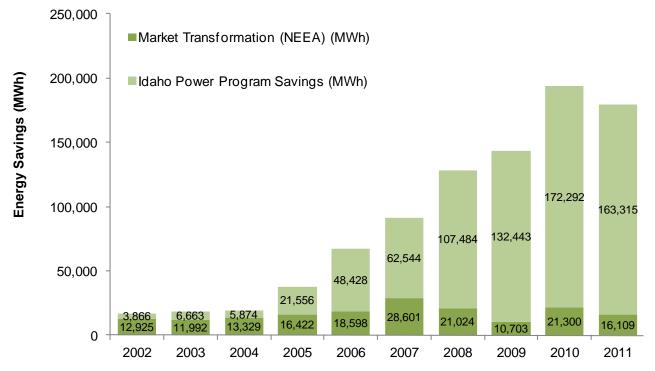


Figure 1. Annual energy savings 2002-2011 (MWh)

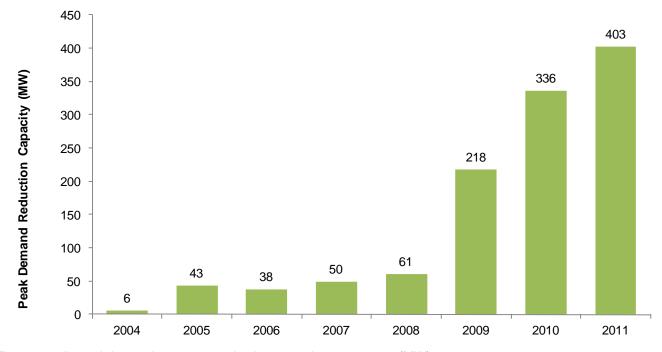


Figure 2. Annual demand response reduction capacity 2004–2011 (MW)

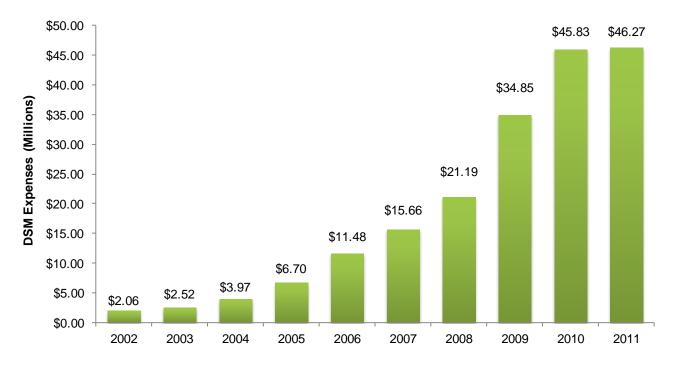


Figure 3. DSM expense history 2002–2011 from all sources (millions of dollars)

#### **Demand Response Programs**

The goal of demand response at Idaho Power is to minimize or delay the need to build new supply-side resources. Through the IRP planning process, the company estimates future capacity shortfalls and plans programs to mitigate these shortfalls.

In 2011, Idaho Power continued to research demand response need and value and to refine the company's method of dispatch. In September, Idaho Power contracted with Freeman, Sullivan & Co. (FSC Group) to conduct a two-day workshop on demand response. The FSC Group, an established consulting organization, has conducted energy efficiency, pricing, and demand response research for electric utilities and power authorities throughout the United States (US) and Canada. A copy of the presentation used in this workshop is found in Supplement 2: Evaluation. Several departments from Idaho Power continued to work together to optimize the dispatch of the demand response programs on a day-to-day basis in the summer to achieve the greatest possible demand reduction and comply with Idaho Commission Order No. 32250. This order recommended that Idaho Power increase the use of its curtailment hours in order to decrease the amount of power purchased during periods of heavy load. To achieve this, representatives from the Energy Efficiency, Power Supply, Compliance, System Dispatch, Regulatory Affairs, Transmission Planning, and Generation Dispatch departments met weekly to determine a potential dispatch schedule for the following week. This team considered the upcoming load forecast, weather forecast, generation availability, and the magnitude of the forecast system peak in order to set a dispatch schedule. The actual decision to dispatch was made on a day-ahead basis by Power Supply Operations. Idaho Power dispatched the A/C Cool Credit and FlexPeak Management programs 14 times in the summer of 2011, more times than in previous years.

Demand response programs are measured by the number of MW of reduction capacity available to the company during system peak periods. In 2011, Idaho Power offered three demand response programs. The A/C Cool Credit program for residential customers, the FlexPeak Management program for commercial/industrial customers, and the Irrigation Peak Rewards program for irrigation customers were

available. As a result of the changes implemented to the Irrigation Peak Rewards program in 2011, which included a new incentive structure, the program experienced record participation, growing from about 250 MW of available capacity in 2010 to 320 MW of capacity in 2011. Because of the fixed and variable incentive structure, the nature of summer peak loads, and the weather in 2011, the Irrigation Peak Rewards program was not dispatched.

#### **Energy Efficiency Programs**

Energy efficiency programs focus on reducing energy usage by identifying homes, buildings, equipment, or components where energy-efficient design, replacement, or repair can yield energy savings. These programs are available to all customer sectors. Project measures range from entire building construction to simple lightbulb replacement. Savings from these programs are measured in terms of kilowatt-hour (kWh) or MWh savings. These programs usually supply energy savings throughout the year. Idaho Power's energy efficiency offerings include programs in residential and commercial new construction (lost opportunity savings), residential and commercial retrofit applications, and irrigation and industrial systems improvement or replacement.

#### **Market Transformation**

Market transformation is a method of achieving energy savings through engaging and influencing large national and regional companies and organizations. These organizations are in a position to influence the design of energy usage in products, services, and practices that affect electricity consumption. Idaho Power achieves market transformation savings primarily through its participation in the Northwest Energy Efficiency Alliance (NEEA).

#### Other Programs and Activities

Other programs and activities represent a range of small projects that are typically research, development, and education oriented. This category includes the Residential Energy Efficiency Education Initiative, Easy Savings® Program, Commercial Educational Initiative, Local Energy Efficiency Funds (LEEF), Students for Energy Efficiency (SEE), Residential Economizer Project Study, and Boise City Home Audit Project. These programs enable Idaho Power to offer support for projects and educational opportunities not normally covered under existing programs.

Table 1 provides a list of the DSM programs and their respective sectors, operational category, the state in which each was available in 2011, and associated energy savings.

Table 1. 2011 DSM, sectors, programs, operational type, and energy savings

Program by Sector	Operational Type	State	Savings
Residential			
A/C Cool Credit	Demand Response	ID/OR	24.0 MW
Ductless Heat Pump Pilot	Energy Efficiency	ID/OR	459 MWh
Energy Efficient Lighting	Energy Efficiency	ID/OR	19,694 MWh
Energy House Calls	Energy Efficiency	ID/OR	1,214 MWh
ENERGY STAR® Homes Northwest	Energy Efficiency	ID/OR	728 MWh
Heating & Cooling Efficiency Program	Energy Efficiency	ID/OR	733 MWh
Home Improvement Program	Energy Efficiency	ID	918 MWh
Home Products Program	Energy Efficiency	ID/OR	1,485 MWh
Oregon Residential Weatherization	Energy Efficiency	OR	22 MWh
Rebate Advantage	Energy Efficiency	ID/OR	159 MWh
Residential Energy Efficiency Education Initiative	Other Programs and Activities	ID/OR	n/a
See ya later, refrigerator <sub>®</sub>	Energy Efficiency	ID/OR	1,712 MWh
Weatherization Assistance for Qualified Customers	Energy Efficiency	ID/OR	2,784 MWh
Weatherization Solutions for Eligible Customers	Energy Efficiency	ID	1,141 MWh
Commercial/Industrial			
Building Efficiency	Energy Efficiency	ID/OR	11,515 MWh
Commercial Education Initiative	Other Programs and Activities	ID/OR	n/a
Easy Upgrades	Energy Efficiency	ID/OR	38,723 MWh
FlexPeak Management	Demand Response	ID/OR	58.8 MW
Holiday Lighting Program	Energy Efficiency	ID/OR	66 MWh
Oregon Commercial Audits	Energy Efficiency	OR	n/a
Custom Efficiency	Energy Efficiency	ID/OR	67,979 MWh
Irrigation			
Irrigation Efficiency Rewards	Energy Efficiency	ID/OR	13,980 MWh
Irrigation Peak Rewards	Demand Response	ID/OR	320 MW
All Sectors			
Northwest Energy Efficiency Alliance	Market Transformation	ID/OR	16,109 MWh

# **Program Performance**

In 2011, energy savings slightly decreased as compared to 2010. The saving difference varied by sector. Energy savings for the residential sector decreased by 28 percent, for the commercial sector energy savings increased by 7 percent, for the industrial sector the decrease was 5 percent, while the irrigation sector increased by 27 percent. The residential sector savings decreased to 31,050 MWh; the commercial sector savings increased to 50,238 MWh; the industrial sector decreased to 67,979 MWh; and the irrigation sector increased to 13,980 MWh. The reduction in savings in the residential sector was due, in part, to new lower deemed savings amounts approved by the Regional Technical Forum (RTF), the downturn in the housing market, and program maturity. Some of the energy savings reduction in the industrial sector and the increase in the commercial sector were due to programmatic changes in energy-efficient lighting. Overall reduced energy savings in 2011 may be caused, in part, by Idaho Power's and the region's increased evaluation, measurement, and verification (EM&V) activities. Additional energy savings continue to be realized through market transformation partnership activities with NEEA.

Customer participation remained strong in most of the existing programs during the year. The number of projects completed under the Easy Upgrades program increased from 1,535 projects in 2010 to 1,732 projects in 2011, a 13 percent increase. Participation in the Ductless Heat Pump (DHP) Pilot increased by 26 percent, from 104 homes in 2010 to 131 homes in 2011. As a result of the continuation of the depressed housing market in 2011, the number of manufactured homes given incentives in the Rebate Advantage program decreased from 35 homes in 2010 to 25 homes in 2011. The projects completed under the Irrigation Efficiency Rewards program increased by 17 percent, from 753 projects in 2010 to 880 in 2011.

A few individual programs were big contributors to overall energy savings. Although the Custom Efficiency program had reduced savings as compared to 2010, the program again accounted for 42 percent of Idaho Power's energy savings from programs, resulting in an estimated 67,979 MWh of savings. The Easy Upgrades program in the commercial sector provided 24 percent, or 38,723 MWh, of estimated energy savings. In the residential sector, the Energy Efficient Lighting program saved 19,694 MWh, accounting for over 12 percent of overall energy savings.

Table 2 shows the 2011 annual energy savings, percent of energy usage, number of customers, and average megawatt (aMW) savings associated with each of the DSM program categories. The table also provides a comparison of the 2011 contribution of each sector in terms of energy usage and its respective size in number of customers. Unless otherwise noted, all energy savings presented in this report are measured or estimated at the customer's meter, excluding line losses.

Table 2. 2011 program sector summary and energy use/savings/demand reduction capacity

	Energy	y Efficiency	Program Im	Idaho Power System Sales			
	Direct Expenses	Energy Savings (MWh)	Average Energy (aMW)	Peak Load Reduction (MW) <sup>b</sup>	Sector Total (MWh)	Percentage of Energy Usage	Number of Customers
Residential	\$ 6,991,938	31,050	3.5	24.0	5,123,009	37.30%	411,487
Commercial	6,024,488	50,238	5.7	64.0	3,802,455	27.69%	65,226
Industrial	8,783,811	67,979	7.8	7.8	3,135,429	22.83%	117
Irrigation	2,360,304	13,980	1.6	323.8	1,673,408	12.18%	18,736
Market Transformation	3,108,393	16,109	1.8	n/a	n/a	n/a	n/a
Other Programs and Activities	567,689	68	<1	n/a	n/a	n/a	n/a
Total	\$27,836,623	179,424	20.4	419.5	13,734,301	100.0%	495,566

<sup>&</sup>lt;sup>a</sup> Energy, average energy, and expense data have been rounded to the nearest whole unit, which may result in minor rounding differences.

#### **2011 Activities**

In 2011, Idaho Power continued to expand its DSM programs in order to increase participation and energy savings. Many of the activities in 2011 also revolved around evaluation and research in an effort to make its programs more effective and the savings gained from these programs more reliable. The company was also engaged in enhanced regulatory reporting and filings relating to energy efficiency.

Idaho Power completed the development of a new comprehensive database that more effectively stores savings results, measures information, and allows for more efficient incentive processing for customers. The database structure allows for the integration of DSM program data with Idaho Power's customer

<sup>&</sup>lt;sup>b</sup> Includes peak load reduction from both demand response and energy efficiency programs.

information system (CIS) along with financial databases for tracking and processing customer incentive payments. Because of the unified and consistent table structure, the database is well positioned for the future transition to the new CIS system.

Idaho Power collaborated with the City of Boise to serve as the implementer for the Boise City Home Audit Project. Additionally, the company continued participation with NEEA's DHP Pilot.

During 2011, Idaho Power continued its contractual participation in NEEA under the 2011 to 2014 agreement. NEEA's efforts in the northwest impact Idaho Power's customers by encouraging regional market transformation. Idaho Power representatives participated on several NEEA committees and events.

Idaho Power also continued to help fund and participate in the RTF and uses the results from the RTF's research in program development and cost-effectiveness analyses. Beginning in 2011, a representative from Idaho Power was a member of the newly formed RTF Policy Advisory Committee. This committee is responsible for providing policy recommendations on how best to meet the needs of the stakeholders while maintaining the independent technical model of the RTF. Additionally, the Idaho Power energy efficiency evaluator served on the Custom Protocol and the Impact Analysis sub-committees.

On March 16, 2011, Idaho Power filed case number IPC-E-11-05, which was a request for the IPUC to designate Idaho Power's expenditure of \$42,479,692 in Idaho Rider funds in 2010 as prudently incurred expenses. On July 1, 201,1 Idaho Power filed a letter of correction to the prudency filing revising the prudency determination for \$41,952,911 because \$526,781 was mistakenly charged to the Idaho Rider in 2010 that should have been charged to the Oregon Rider. Idaho Power has included these corrections in the *Demand-Side Management 2011 Annual Report*. On August 18, 2011, in Order No. 32331, the IPUC found that the company acted prudently in the administration of its Rider-funded DSM programs and expenses in 2010. This prudency filing and Idaho Power's DSM activities are designed to comply with the agreed principles set forth in the MOU for Prudency Determination of DSM Expenditures.

# **Energy Efficiency Advisory Group**

Formed in 2002, the Energy Efficiency Advisory Group (EEAG) provides input on formulating and implementing energy efficiency and demand reduction programs funded by the Rider. Currently, the EEAG consists of 14 members from across Idaho Power's service area and the Pacific Northwest. Members represent a cross-section of customers, including individuals from the residential, industrial, commercial, and irrigation sectors, as well as representatives for seniors, low-income individuals, environmental organizations, state agencies, public utility commissions, and Idaho Power.

In 2011, the EEAG met three times: February 23, June 27, and October 14. During the meetings, Idaho Power discussed and requested recommendations on new program proposals, marketing methods, and specific measure details; provided a status of the Rider funding and expenses; updated ongoing programs and projects; and supplied general information on DSM issues. Idaho Power relies on input from the EEAG to provide a customer and public interest review of energy efficiency and demand response programs and expenses. The minutes from the 2011 EEAG meetings are included in *Supplement 2: Evaluation*.

In addition to the EEAG, Idaho Power solicits further customer input through meeting directly with stakeholder groups in the residential, commercial, industrial, and irrigation customer sectors. Idaho Power has also enhanced its relationships with trade allies, trade organizations, and regional

groups committed to increasing the use of energy efficiency programs and measures to reduce electricity load.

# **Smart Meter Project**

Idaho Power completed its Smart Meter Project in 2011 by installing just over a half million Advanced Metering Infrastructure (AMI) meters. The Smart Meter Project enhances Idaho Power's energy efficiency efforts in several ways. Hourly data is being collected by these meters and can be viewed by customers via the Internet. This will enable customers to be more informed and to more wisely manage their use of electricity. Customers' hourly energy data and monthly demand data will eventually help to evaluate energy efficiency and demand response programs. Idaho Power will continue to expand its use of the AMI power line communications technology to dispatch its demand response programs.

Idaho Power installed about 501,000 smart meters, including 418,000 residential and 83,000 commercial smart meters, which concluded the company's three-year AMI deployment. During 2009, meters were installed in the Treasure Valley area, and in 2010 deployment continued in Canyon County as well as the Payette and Ontario, Oregon, and Mountain Home areas. Work commenced in the Pocatello area in January 2011 and continued until the end of May. From June to December 2011, the Twin Falls and Hailey areas were outfitted with AMI technology. The project, which used about a semi-truck-load of meters every two weeks and installed 750 to 1,250 meters a day, was completed on schedule.

# **Regulatory Initiatives**

Idaho Power believes there are three essential components of an effective regulatory model for DSM: 1) the timely recovery of DSM program costs, 2) the removal of financial disincentives, and 3) the availability of financial incentives. Since 2002, Idaho Power has recovered most of its DSM program costs through the Rider with the intended result of providing more timely recovery of DSM costs. To address the removal of financial disincentives, Idaho Power has tested the effects of a fixed-cost adjustment (FCA) mechanism in a five-year pilot initiative. The FCA pilot completed year five, and the company filed Case No. IPC-E-11-19 with the IPUC requesting to convert the FCA to an ongoing and permanent rate schedule, which is currently pending.

On October 22, 2010, Idaho Power filed Case No. IPC-E-10-27 with the IPUC requesting authorization to implement a demand-side resource (DSR) business model that would 1) move demand response incentive payments into the PCA on a prospective basis, 2) establish a regulatory asset for Custom Efficiency program incentive costs, and 3) change the carrying charge on the Idaho Rider from the customer deposit rate to the company's authorized the rate of return. On April 1, 2011, the IPUC issued Order No. 32217, which authorized recovery of \$10 million of the deferral balance in the PCA for 2011, effective June 1, 2011, through May 31, 2012. The IPUC issued Order No. 32245 on May 17, 2011, allowing Idaho Power to account for incentives paid through the Custom Efficiency program as a regulatory asset beginning January 1, 2011. On December 30, 2011, the IPUC issued Order No. 32426 that approved General Rate Case No. IPC-E-11-08, including \$11.3 million of demand response incentives to become part of base rates effective January 1, 2012. Also in this case, the IPUC authorized Idaho Power to reduce the Idaho Rider from 4.75 percent to 4 percent beginning January 1, 2012. Idaho Power believes this level of funding will allow the company to continue to pursue all cost-effective energy efficiency.

# **DSM Expenditures**

Funding for DSM programs in 2011 came from several sources. The Rider funds are collected directly from customers on their monthly bills. For 2011, the Idaho Rider was 4.75 percent of base-rate revenues. On March 5, 2010, Idaho Power filed with the Public Utility Commission of Oregon (OPUC) to increase the Oregon Rider from 1.5 percent to 3.0 percent. This was approved on June 1, 2010. Energy efficiency and demand response-related expenses not funded through the Rider, including costs for administration and overhead, are included as part of Idaho Power's ongoing operation and maintenance costs.

Beginning in 2011, Idaho Power was allowed in Idaho to account for incentives paid through the Custom Efficiency program as a regulatory asset beginning January 1, 2011. Total DSM expenses funded from all sources were \$46.3 million in 2011. At the beginning of 2011, the Idaho Rider negative balance was about \$17.6 million, and by January 1, 2012, the negative balance was \$5.3 million. This reduction in the Idaho Rider negative balance was accomplished through the filings described under Regulatory Initiatives. At the beginning of the year, the Oregon Rider negative balance was approximately \$1.9 million, and by year-end the negative balance was \$3.5 million.

Table 3 provides a summary of the 2011 expenses and energy savings by each funding category.

Table 3. 2011 funding source and energy impact

Funding Source	Expenses	MWh Savings
Idaho Rider	\$35,096,540	162,370
Oregon Rider	2,566,890	14,271
Idaho Power Base Rates	8,602,822	2,784
Total	\$46,266,252	179,424

Table 4 and Figure 4 show total expenditures funded by the Idaho Rider (\$35,096,540), the Oregon Rider (\$2,566,890), and Custom Efficiency program (\$7,018,385), separated by expense category. The expenses in the Materials & Equipment category are primarily for A/C Cool Credit (\$837,000). Other expenses include marketing (\$583,000), program evaluation (\$379,000), and program training (\$80,000). Purchased services includes payments made to NEEA and third-party contractors who help deliver Idaho Power's programs, such as M2M for Irrigation Peak Rewards; EnerNOC, Inc., for FlexPeak Management; JACO for See ya later, refrigerator<sub>®</sub>; Honeywell for A/C Cool Credit; Evergreen Consulting for Easy Upgrades; and contractors for Weatherization Solutions for Eligible Customers.

Table 4. 2011 Idaho Rider, Oregon Rider, and Custom Efficiency expenditures by category

	Total	% of Total
Incentive Expense	\$30,666,736	69%
Labor/Administration	2,941,426	6%
Materials	845,874	2%
Other Expense	1,226,726	3%
Purchased Services	9,001,053	20%
Total 2011 Rider Expenditures by Category	\$44,681,815	100%

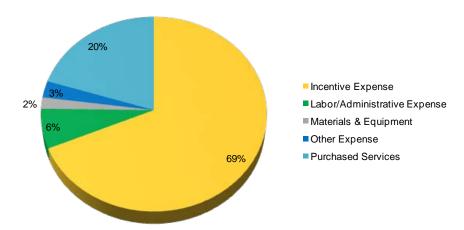


Figure 4. 2011 Idaho Rider, Oregon Rider, and Custom Efficiency expenditures by category

Figure 5 shows Idaho Rider, Oregon Rider, and Custom Efficiency incentive expenses separated by type of program and by type of sector, either Demand Response (DR) or Energy Efficiency (EE).

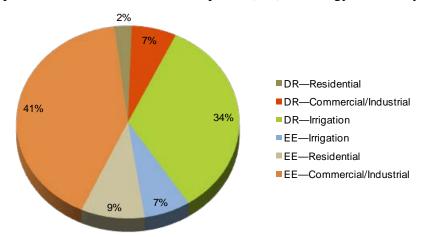


Figure 5. 2011 Idaho Rider, Oregon Rider, and Custom Efficiency incentive expenses by sector

# **Marketing**

In 2011, the annual DSM marketing plans were developed for each program. These plans focus on the unique customer segments, including residential, commercial/industrial, and irrigation. Each marketing plan includes the goals, strategy, tactics, previous marketing results/research, and budgets for each program within that segment.

A number of positive marketing changes are planned at Idaho Power during 2012. DSM marketing will transition from a portion of the energy efficiency program specialist's job responsibilities to the focus of two marketing specialists from the Corporate Communications department.

Targeting potential program participants continues to be refined. In addition to using segmentation software, including Nielsen's PRIZM segmentation software, and internal customer data regarding past program participation, energy usage, and other data, the company will use data from the J.D. Power and Associates *Smart Energy Consumer Behavioral Segmentation Study*. This new data source allows Idaho Power to focus on specific energy efficiency behaviors and customer segments more likely to engage with Idaho Power programs.

In an ongoing attempt to expand the company's marketing channels, Idaho Power will advertise a few Idaho Power energy efficiency programs in movie theaters beginning in 2012. Idaho Power has heard other utilities have had success with this channel, and it will allow Idaho Power to reach its customers through new methods. Mechanisms will be in place to allow Idaho Power to track the success of these advertisements.

In the *Demand-Side Management 2010 Annual Report*, Idaho Power reported that, as part of the company's awarded Smart Grid Investment Grant, it would begin to integrate a Customer Relationship Management (CRM) tool in 2011. This new marketing tool will track customer interactions and centralize customer marketing data, providing in-depth information about Idaho Power customers. After further analysis conducted in 2011, the company postponed the integration of this tool with the CIS. Idaho Power will explore integrating the CRM portion of the new Customer Relationship and Billing (CR&B) system after the billing system is installed and functional.

#### **Program Evaluation**

Program evaluation is a fundamental component of Idaho Power's DSM operational activities. The company generally contracts with third-party contractors to provide impact and process evaluations. Third-party studies and evaluations are usually awarded through a competitive bidding process and managed by Idaho Power's Procurement department. In some cases, internal studies and analyses are managed by Idaho Power's Research and Analysis team within the Customer Relations and Energy Efficiency organization. Evaluations are specifically coordinated by the company's energy efficiency evaluator, while surveys are performed in consultation with the customer research coordinator.

In 2011, Idaho Power implemented its broad evaluation plan for its energy efficiency and demand response programs with a focus on completing impact evaluations. ADM Associates, Inc., was chosen to perform program impact evaluations of the Energy House Calls, Home Improvement, Rebate Advantage, Home Products, and Custom Efficiency programs and a process evaluation of the See ya later, refrigerator® program. Portland Energy Conservation, Inc. (PECI), which specializes in evaluating demand response programs, was retained to perform an impact evaluation of the A/C Cool Credit program and process evaluation of the Irrigation Peak Rewards program. Idaho Power also produced two internal reports, one on Irrigation Peak Rewards and the other on FlexPeak Management. The results of these evaluations and studies are referenced throughout this report with descriptions of Idaho Power's actions as a result of the evaluations. Copies of the final reports from all evaluations performed in 2011 can be found in *Supplement 2: Evaluation*.

#### **Customer Satisfaction**

In 2012, based on surveys conducted in 2011, Idaho Power received the highest customer satisfaction with business customers among western midsized utilities according to J.D. Power and Associates 2012 Electric Utility Business Customer Satisfaction Study. Idaho Power tied with SMUD (Sacramento Municipal Utility District). Sixty-two percent of the business customer respondents in this study indicated they are aware of Idaho Power's energy efficiency programs, and those customers are significantly more satisfied with Idaho Power than the customers who are unaware of the programs. The awareness of Idaho Power's energy efficiency programs not only affects the customer's overall satisfaction with the company but also their satisfaction with survey components like Corporate Citizenship and Pricing.

Since 1995, Idaho Power has employed an independent third-party research vendor to conduct customer relationship surveys to measure the overall customer relationship and satisfaction with Idaho Power.

The survey measures satisfaction of a number of different aspects of the customer's relationship with Idaho Power, including energy efficiency at a very high level. However, the intent of this survey is not to measure all aspects of any or all energy efficiency programs offered by Idaho Power.

The 2011 results of Idaho Power's quarterly customer relationship survey showed steady improvement over recent years. Customers' positive perception of Idaho Power's energy efficiency efforts increased from 39 percent in early 2003, when energy efficiency-related questions were added to the survey, to 58 percent in late 2011. Idaho Power continues to expand its customer satisfaction measurement activities, which enable Idaho Power to identify actionable areas for improvement. Figure 6 depicts quarterly growth in the number of customers who indicated Idaho Power met or exceeded their needs concerning energy efficiency efforts encouraged by Idaho Power.

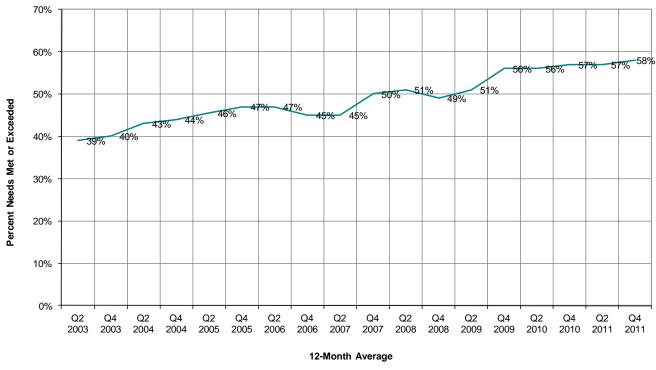


Figure 6. Percent of customers whose needs are met or exceeded by Idaho Power's energy efficiency efforts

Three new questions related to energy efficiency programs in the general relationship survey were added in 2010 and remained in the 2011 survey: 1) Have you participated in any of Idaho Power's energy efficiency programs? 2) Which energy efficiency program did you participate in? and 3) Overall, how satisfied are you with the energy efficiency program? In 2011, overall, 36 percent of the survey respondents across all sectors indicated they have participated in at least one Idaho Power energy efficiency program. Of survey respondents who have participated in at least one Idaho Power energy efficiency program, 93 percent are "very" or "somewhat" satisfied with the program.

Several surveys measured customer satisfaction with individual programs in 2011. The surveys also provide guidance for program modification, marketing, and evaluation. Survey results are presented in the following program descriptions in this report: A/C Cool Credit, DHP Pilot, Heating & Cooling Efficiency (H&CE) Program, Easy Savings® Program, Home Improvement Program, Residential Economizer Pilot, Residential Energy Efficiency Education Initiative, See ya later, refrigerator®, Weatherization Solutions for Eligible Customers, Easy Upgrades, FlexPeak Management, Irrigation Efficiency, Irrigation Peak Rewards, Boise City Home Audit Project, and SEE.

Idaho Power programs have ongoing customer satisfaction measurements as a follow-up to the application process. For example, Easy Upgrades provides an ongoing annual, Web-based customer survey for its participants. Results of these surveys indicate general satisfaction and help guide program improvement and marketing efforts. The H&CE Program provides an opportunity for customer and contractor feedback through surveys.

#### **Cost-Effectiveness**

Idaho Power considers cost-effectiveness of primary importance in the design, implementation, and tracking of energy efficiency and demand response programs. Because of Idaho Power's diversified portfolio of programs, most of the new potential for energy efficiency savings in the Idaho Power service area is based on measures being added to programs, rather than new programs. The process in the IRP for determining if additional measures should be adopted remains the same for program inclusion. Specific programs or potential energy-savings measures are screened by sector to determine if the levelized cost of these programs or measures is less than supply-side resource alternatives. If they are shown to be a lower cost than supply-side resources from a levelized cost perspective, the hourly shaped energy savings is subsequently included in the IRP as a resource.

Prior to the actual implementation of energy efficiency or demand response programs, Idaho Power performs a cost-effectiveness analysis to assess whether a specific potential program design will be cost effective from the perspective of Idaho Power and its customers. Incorporated into these models is input from various sources in order to use the most current and reliable information available. When possible, Idaho Power leverages the experiences of other companies in the region or throughout the country to help identify specific program parameters.

Idaho Power's goal is for all mature programs to have benefit/cost (B/C) ratios greater than 1.0 for the total resource cost (TRC) test, utility cost (UC) test, and participant cost test (PCT) at the program level and the measure level. Only the program-level tests are used in cases where there is significant interaction between measures. Idaho Power may launch a pilot program to evaluate estimates or assumptions in the cost-effectiveness analysis. Following the implementation of a program, cost-effectiveness analyses are reviewed annually, including actual program information, such as actual program expenses, savings, or participation levels. If measures or programs are determined to not be cost effective after implementation, the program or measures are reexamined and modified based on input from the EEAG. In 2011, all three of the company's demand response programs are cost effective from a long-term prospective. Most of Idaho Power's energy efficiency programs are shown to be cost effective from the TRC, UC, and PCT perspectives. The Home Improvement Program was shown not to be cost-effective from the TRC, UC, and PCT perspectives. This was due, in part, by new deemed savings received from the RTF in October 2011. The new deemed savings were significantly lower than the savings estimated by a third-party consultant in 2008 when the program began. The specific cost-effectiveness ratios are included in *Supplement 1: Cost-Effectiveness*.

Appendix 4 contains the UC and TRC B/C ratios using actual cost information over the life of each program through 2011. These B/C ratios are provided as a measure of cost-effectiveness for all Idaho Power energy efficiency or demand response programs currently being offered where energy savings and demand reduction are realized. As was done in 2010, the actual historic savings and expenses were not discounted, only the value of the ongoing savings going forward are discounted to reflect today's dollars. Idaho Power further reviewed its methodology to analyze the cost-effectiveness of its demand response programs and adopted some changes recommended by a third-party contractor, FSC Group. A complete description of Idaho Power's methodology, input assumptions, sources, and results is presented in *Supplement 1: Cost-Effectiveness*.

In 2011, all but one of Idaho Power's energy efficiency programs were cost effective from the UC, TRC, and PCT perspective, and all of the demand response programs were determined to be cost effective from the long-term prospective. The A/C Cool Credit program was determined to be not cost effective for 2011, and the Home Improvement Program was also not cost effective for 2011. Fifty-one measures within programs were not cost-effective from the UC or TRC perspective. Of those 51 measures, five were measures that were removed from the program offerings in 2011 but had some carry over from 2010. Six measures will be reviewed and modified in 2012. Three measures are bundled with other cost-effective measures and analyzed at a project level. Thirty-seven measures will be removed in 2012.

During the 2011 year-end review of cost and savings in conjunction with the results of impact evaluations, Idaho Power realized issues with two of its programs that affected the cost-effectiveness analysis. For the A/C Cool Credit program, two issues affecting communication with the cycling switches were discovered that reduced the 2011 demand reduction to a level that rendered the program not cost effective for 2011. These issues and Idaho Power's actions to remediate the issues are described in further detail in the A/C Cool Credit section of this report.

Two factors relating to the cost-effectiveness of the Home Improvement Program occurred in 2011 and in the analysis in preparation of this report. In 2011, the RTF deemed new savings for weatherization measures for Idaho Power by heating type and climate zone. The cooling savings associated with attic insulation were greatly reduced as compared to Idaho Power's previous savings estimate provided by a third-party contractor in 2008. These reduced savings dramatically affected the cost-effectiveness. As a result, the program offerings are being changed in 2012.

While verifying 2011 Home Improvement Program incentives for this report, Idaho Power found 40 incentives, out of a total of 2,275, were paid to customers who submitted non-qualifying applications. Since these costs were included in the cost-effectiveness analysis without any associated savings, the cost-effectiveness was slightly reduced. In 2012, the incentive payment processes have been change to provide a more thorough review of participant applications prior to payment. These issues and Idaho Power's actions to remediate the issues are described in further detail in the Home Improvement Program section of this report.

#### **Future Plans**

Many of Idaho Power's DSM programs are selected for implementation through its biennial IRP planning process. The IRP is a public document that details Idaho Power's strategy for economically maintaining the adequacy of its power system into the future. The IRP process balances cost, risk, and environmental concerns in developing a preferred portfolio of future resources that meet the specific energy needs of Idaho Power's customers. In 2012, Idaho Power plans to contract with a third-party contractor to conduct a new energy efficiency potential study. The results of this study will be included in the analyses for the 2013 IRP, will be used in ongoing cost-effectiveness analyses, and may identify new energy-savings opportunities for the company and its customers. Idaho Power plans to continue to increase participation and energy savings from existing energy efficiency programs and initiatives. The company will continue to modify programs and measures, update energy savings, and cost data to ensure all of its programs remain cost effective. Additionally, the company will continue to expand and enhance its EM&V projects included in the evaluation plan in *Supplement 2: Evaluation*.

# **DSM Annual Report Structure**

The structure of Idaho Power's *Demand-Side Management 2011 Annual Report* remains mostly unchanged from the 2010 report, aligning with the reporting requirements included in the MOU with the IPUC staff and Idaho's other investor-owned utilities.

This main *Demand-Side Management 2011 Annual Report* is organized primarily by customer sectors categorized by residential, commercial/industrial, and irrigation. The sector descriptions are followed by information regarding programs in that sector. Each program description includes a chart containing 2011 and 2010 program metrics in tabular format, followed by a general description, 2011 activities, cost-effectiveness, customer satisfaction/evaluation, and 2012 plans. Each program section contains detailed information in relation to program changes and the reasoning behind those changes, including details on cost-effectiveness and evaluation. Following the sector and program sections of the report are descriptions of Idaho Power's activities in market transformation, other programs and activities, and Idaho Power's regulatory initiatives. The appendices following the written sections contain tabular information on the 2011 expenses and savings and supply historic information for all energy efficiency programs and demand response activities at Idaho Power.

Historically, Idaho Power divided its service area into five regions: 1) Canyon, consisting primarily of Canyon and Gem counties; 2) Western, consisting of the company's Oregon jurisdiction and Adams, Valley, and Payette counties; 3) Capital, consisting of Boise, Mountain Home, and the surrounding area; 4) Southern, consisting of the Twin Falls and Sun Valley area; and 5) Eastern, consisting of the Pocatello, Blackfoot, and Salmon areas.

Idaho Power currently divides its service area into three geographic regions: 1) Canyon–West, which combines the former Canyon and Western regions; 2) Capital, which retains the same geographic area; and 3) South–East, which combines the former Southern and Eastern regions. Because of the historical geographic demarcations, the five historical regions are often referred to throughout this report.

Appendices 1–5 remain generally unchanged in form and contain financial, energy and demand savings, and levelized costs and program life B/C ratios from the UC and the TRC perspectives. Appendix 5 contains detailed financial and energy-savings information separated by Idaho Power's two jurisdictions, Idaho and Oregon.

Included again this year are two supplements and an attached compact disc (CD). Supplement 1: Cost-Effectiveness contains detailed annual cost-effectiveness information by program and energy-saving measures as well as detailed financial information separated by expense category and jurisdiction. Provided in Supplement 1 are the B/C ratios from the UC, TRC, ratepayer impact measure test (RIM), and PCT perspectives. Beginning in 2011, Idaho Power is using the alternate DSM costs and other financial inputs from Idaho Power's 2011 IRP. These inputs are used in cost-effective analyses for year 2011 and forward.

Supplement 2: Evaluation contains Idaho Power's evaluation plans, copies of completed program evaluation reports, research reports, and reports created by Idaho Power or third parties. A CD containing market progress evaluation reports (MPER) provided by NEEA is attached to Supplement 2.

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Introduction

#### RESIDENTIAL SECTOR OVERVIEW

# **Description**

Idaho Power serves a population of slightly over one million people. Of this overall population, at the end of 2011, the company was serving 411,487 residential customers in its Idaho and Oregon service areas. During 2011, Idaho Power added 2,733 residential customers compared to 2,123 residential customers added during 2010. While this represents the fourth consecutive year of modest residential customer growth, it is a 28-percent increase year over year in new residential customer additions. A continued trend of economic uncertainty and fewer housing starts were the main drivers of slower growth in the residential customer segment.

During 2011, the company successfully managed its summer and winter peak periods, which in turn resulted in slightly lower system sales for the year as compared to a normal year. For the third consecutive year, Idaho Power did not exceed its summer system peak record. The summer system peak of 3,214 MW was established on Monday, June 30, 2008, at 3:00 p.m. In 2011, the company experienced another summer of milder temperatures, strong customer participation in energy efficiency programs, numerous customer education initiatives, and successful dispatching of company-sponsored demand response programs. All of this led to a system peak of only 2,973 MW on Wednesday, July 6, 2011, at 8:00 p.m.

The company also had a lower system winter peak during 2010 to 2011. The all-time winter peak for Idaho Power of 2,528 MW occurred on Thursday, December 10, 2009, at 8:00 a.m. The winter system peak during 2010/2011 was only 2,261 MW on Wednesday, February 2, 2011, at 8:00 a.m. All of the previously mentioned factors contributed to a decrease in residential system sales of 3 percent in 2011 compared to 2010, or 2.4 percent when weather adjusted.

Idaho Power also continued its education and promotion of energy efficiency programs and information to all residential customers with impressive results. These tasks and activities contributed to increased program participation and improvement in customer satisfaction results.

Total residential sector energy savings in 2011 amounted to 31,050 MWh, a 28-percent decrease over savings of 42,851 MWh in 2010. Peak demand savings from residential demand response was 24 MW, which included a net increase of 7,000 participants in 2011.

# **Programs**

Table 5. 2011 residential program summary

			Total Costs			Savir	Savings	
Program	F	Participants		Utility	F	Resource	Annual Energy (kWh)	Peak Demand (MW)
Demand Response								
A/C Cool Credit	37,728	homes	\$ 2	2,896,542	\$	2,896,542	n/a	24.0
Total			. \$ 2	2,896,542	\$	2,896,542		24.0
Energy Efficiency								
Ductless Heat Pump Pilot	131	homes	\$	191,183	\$	550,033	458,500	
Energy Efficient Lighting	1,039,755	bulbs		1,719,133		2,764,623	19,694,381	
Energy House Calls	881	homes		483,375		483,375	1,214,004	
ENERGY STAR® Homes Northwest	308	homes		259,762		651,249	728,030	
Heating & Cooling Efficiency Program	130	projects		195,770		614,523	733,405	
Home Improvement Program	2,275	Homes		666,041		2,704,816	917,519	
Home Products Program	15,896	appliances/fixtures		638,323		1,520,977	1,485,326	
Oregon Residential Weatherization	8	homes		7,926		10,208	21,908	
Rebate Advantage	25	homes		63,469		85,044	159,325	
See ya later, refrigerator <sub>®</sub>	3,449	refrigerators/freezers		654,393		654,393	1,712,423	
Weatherization Assistance for Qualified Customers	287	homes/non-profits		1,324,415		1,925,817	2,783,648	
Weatherization Solutions for Eligible Customers	117	homes		788,148		788,148	1,141,194	
Total			. \$0	6,991,938	\$	12,753,206	31,049,663	

Notes:

See Appendix 3 for notes on methodology and column definitions.

Totals may not add up due to rounding.

Programs available to residential customers include a demand response program, 12 energy efficiency programs, and an energy efficiency educational initiative. Residential efficiency programs include Energy House Calls, Rebate Advantage, ENERGY STAR® Homes Northwest, Home Products Program, Home Improvement Program, Energy Efficient Lighting, Weatherization Assistance for Qualified Customers (WAQC), Weatherization Solutions for Eligible Customers, DHP Pilot, Oregon Residential Weatherization, H&CE Program, and See ya later, refrigerator®.

Idaho Power continued to maintain its customer participation in residential energy efficiency programs through many promotional methods that included bill inserts, bill messages, print advertisements, radio and television commercials, billboards, retail events, customer visits, and participation in a variety of trade show events.

The Boise City Audit Project was initiated in 2010 and continued into 2011. Idaho Power collaborated with the City of Boise, which received funding initiated by the *American Reinvestment and Recovery Act of 2009* (ARRA), to serve as the program implementer for the city. This project is described in more detail in the Other Programs and Activities section of the *Demand-Side Management 2011 Annual Report*. A program evaluation of the Boise City Audit Project will be conducted in 2012 by a third-party contractor.

Presentations to community groups and businesses continued to be a major emphasis during 2011. Idaho Power customer and community education representatives made hundreds of energy efficiency presentations in communities served by the company.

Idaho Power conducts the Burke Customer Relationship survey each year. This survey showed 56 percent of residential survey respondents in 2011 indicated Idaho Power is meeting or exceeding their needs with information on how to save energy or reduce their bill. Fifty-seven percent of residential respondents indicated Idaho Power is meeting or exceeding their needs by encouraging energy efficiency with its customers. Overall, 43 percent of Idaho Power residential customers surveyed in 2011 indicated Idaho Power is meeting or exceeding their needs in offering energy efficiency programs, while 30 percent of the residential survey respondents indicated they have participated in at least one Idaho Power energy efficiency program. Of residential survey respondents who have participated in at least one Idaho Power energy efficiency program, 90 percent are "very" or "somewhat" satisfied with the program.

#### A/C Cool Credit

	2011	2010	
Participation and Savings			
Participants (participants)	37,728	30,803	
Energy Savings (kWh)	n/a	n/a	
Demand Reduction (MW)	24.0	39.0	
Program Costs by Funding Source			
Idaho Energy Efficiency Rider	\$2,781,553	\$1,854,979	
Oregon Energy Efficiency Rider	\$114,989	\$74,071	
Idaho Power Funds	\$0	\$73,496	
Total Program Costs—All Sources	\$2,896,542	\$2,002,546	
Program Levelized Costs			
Utility Levelized Cost (\$/kWh)	n/a	n/a	
Total Resource Benefit/Cost Ratio	n/a	n/a	
Program Life Benefit/Cost Ratios			
Utility Benefit/Cost Ratio	1.1	10	
Total Resource Benefit/Cost Ratio	1.10		
Program Characteristics			
Program Jurisdiction	Idaho/Oregon		
Program Inception	20	03	

#### **Description**

A/C Cool Credit is a voluntary, dispatchable demand response program for residential customers. Using communication hardware and software, Idaho Power cycles participants' central air conditioners (A/C) or heat pumps off and on via a direct-load control device installed on the A/C unit. This program enables Idaho Power to reduce system peaking requirements during times when summer peak load is high. Idaho Power may cycle participants' A/C for up to 40 hours each month in June, July, and August. In return, participants receive a \$7.00 per-month credit on their Idaho Power bill during July, August, and September.

Individual radio-controlled paging or power-line carrier (PLC) switches are installed on customers' A/C units. These switches allow Idaho Power to cycle customers' A/C during a cycling event. At the end of 2011, approximately 24,421 radio-controlled and 14,579 PLC switches were installed in the program. The company has installed PLC switches wherever possible since the implementation of Idaho Power's Smart Meter Project, which provides the communication backbone for these switches.

#### 2011 Activities

Cycling event hours continued in three-hour periods in an attempt to pinpoint the system peak time with less potential impact on participants. Although summer 2011 temperatures were mild, the program was called on more than in recent years.

There were 14 cycling events in 2011. Eight cycling events were in July and six events were in August. Each event lasted from 4:00 p.m. to 7:00 p.m. One event was called in error using only paging switches on Sunday, July 31, from 4:00 p.m. to 6:57 p.m.

This event was cancelled as soon as it was confirmed that it was an error and not an emergency situation. This event affected approximately 25,000 participants with paging switches.

Marketing in 2011 continued, building on previous efforts and fine-tuning existing marketing methods. These methods included a bill stuffer and direct-mail with follow-up letters. In addition, Idaho Power employees continued visiting businesses and local groups, providing program information and answering questions. The program was also promoted at various events, including the Idaho Green Expo, the St. Luke's Women's Show, and Home and Garden shows.

The cause-related marketing approach used the last few years, consisting of partnering with both the Idaho Foodbank and the Oregon Food Bank—Southeast Oregon Services, was updated and expanded to offer more choices for potential participants. The promotion started in mid-October 2011 and continued through February 2012. Customers enrolling during this limited-time offer and having a switch installed chose between a \$20 contribution made to the participant's local food bank and a \$20 gift card to a retailer or restaurant of their choice. Through December 2011, this marketing approach yielded 729 new A/C Cool Credit enrollments. Sixty-nine percent of participants selected gift cards, and 31 percent selected a contribution to their local food bank. This resulted in \$1,580 donated to the Idaho Foodbank and \$40 donated to the Oregon Food Bank—Southeast Oregon Services. Gift card fulfillment is handled by a third party.

The criteria used for creating a mail list were modified in 2011 to increase targeting efforts. Previous criteria included July use over 500 kWh; Idaho and Oregon residential customers (Rate 1 and 84); counties Ada, Bannock, Bingham, Canyon, Elmore, Gem, Gooding, Jerome, Malheur, Payette, Power, Twin Falls, and Washington; an active Utility Service Agreement (USA); to receive marketing indicator yes; not an existing program participant; premise type is a house; there is no known landlord; and no duplicates. This modification included a comparison of July to April energy use, and only included those accounts where the July use was 15 percent or greater than April use. The mail list was further refined to remove any miscellaneous accounts that meet the above criteria but do not make sense to include, such as outbuildings, wells, religious facilities, estate accounts, or those managed by a third party.

In 2011, two issues had a significant effect on the demand reduction from the A/C Cool Credit program. A paging provider discontinued service to a large area, including Mountain Home Air Force Base (MHAFB), and a software integration issue affected the newest version of the AMI switches.

Prior to June 2011, paging services were provided by two paging companies: USA Mobility and American Messaging. In June 2011, USA Mobility discontinued service to several areas without providing notification to the manufacturer of paging switches or Idaho Power. At the time the service was discontinued, the contract for paging services was between USA Mobility and Cooper-Cannon, the switch manufacturer. Idaho Power's Legal department is looking into legal options due to the discontinued service, and Idaho Power has since contracted directly with the paging providers. USA Mobility has indicated it is not interested in re-installing equipment and returning service to previous levels. This creates a communication situation that is especially challenging in continuing to offer the A/C Cool Credit program to the MHAFB.

Four options have been identified as possible solutions. The first option is to add additional paging equipment through American Messaging. The second option is to add additional paging equipment through another company, although currently there are no other companies identified who provide this service in the area or who are interested in providing this service. The third option is to replace paging switches with AMI-compatible switches only in areas where paging is currently unavailable. The fourth

option is to replace all paging switches, except for the switches on MHAFB, with the AMI-compatible switches.

After reviewing all options and associated costs, the company believes the best long-term solution is to replace all paging switches, with the exception of those at MHAFB, with AMI-compatible switches. This project will take place over an approximate 18-month period beginning in March 2012. Switches in areas where paging coverage has already been discontinued will be replaced first, with a goal of having those complete by June 15, 2012. The remaining paging switches will be replaced before June 2013.

The A/C Cool Credit participants on MHAFB are unique in that the MHAFB is a large general-service customer with metering handled through an industrial meter package. Because of this, it was not necessary to upgrade the substation with AMI equipment, and therefore replacing the paging switch with AMI-compatible switches is not an option. A potential option to add additional paging equipment at the MHAFB has been identified, and Idaho Power is currently investigating to determine if it would be a cost-effective solution. The company will make a decision by March 2012. If this solution is feasible, it would be implemented prior to the 2012 cycling season.

The second issue was with the newest version of the AMI-compatible switches. These switches are the Direct Response Units (DRU), and the previous version was the Load-Control Transponders (LCT). The DRUs have different software and firmware than the older LCTs. Instead of using two separate operating systems, Aclara, the AMI switch manufacturer, developed a code change that would allow both versions of the switch to be dispatched through the same software. This software change was put in place in a test environment and tested with success in fall 2010. However, this change was not made in the production environment. This issue was discovered in fall 2011 and affected 7,891 switches. The newer software has since been installed in the production environment, which allows the newer switches to be dispatched.

#### Cost-Effectiveness

On December 30, 2011, the IPUC acknowledged Idaho Power's 2011 IRP. As a result, each program's cost-effectiveness models have been updated to reflect the newly accepted financial inputs and DSM alternate costs.

The B/C analysis for the A/C Cool Credit program is based on a 20-year model that uses financial and DSM alternate cost assumptions from the most recent IRP. As published in the 2011 IRP, for peaking alternatives, such as demand response programs, a 170-MW simple-cycle combustion turbine (SCCT) is used as an avoided resource cost.

In addition to these updates, Idaho Power has reviewed its methodology to analyze the cost-effectiveness of its demand response programs and adopted some methodology changes recommended by a third-party contractor. These changes are discussed in detail in *Supplement 1: Cost-Effectiveness*.

To address the results of the impact evaluation of the A/C Cool Credit program conducted in 2011, several assumptions in the cost-effectiveness model were updated. Estimates of the additional expenses needed to resolve the communications issues revealed throughout the year are included in the cost-effectiveness analysis. These investments are included in the expenses over the next two years. In the analysis, the demand reduction for 2011 was determined by the evaluation, and the per-participant future demand reduction estimate was reduced from 1.12 kilowatts (kW) to 0.84 kW excluding line loses. The shifted energy and "snapback" estimates were also modified based on the evaluation of the

program. From a long-term prospective, the A/C Cool Credit program had a TRC ratio of 1.10, and from a one-year perspective, it had a TRC ratio of 0.74. See *Supplement 1: Cost-Effectiveness* for details on the cost-effectiveness assumptions and data.

### **Customer Satisfaction and Evaluations**

In September 2011, Idaho Power contracted with ADM Associates, Inc., to conduct a customer survey regarding the effectiveness of the A/C Cool Credit program as a demand response program. The survey was conducted with 520 randomly selected program participants. Survey results indicated just over three-fourths of the 520 respondents (76%) believed they have participated in the program for two or more summers. When asked if they would prefer a fixed dollar credit to their bill or a variable credit based on the number of interruptions, most respondents (81%) prefer the fixed bill credit. In general participants are "very satisfied" (75%) with the program overall and most (68%) are "very likely" to recommend the program. However, many of the results of the customer survey are now considered inaccurate since the communication issues surrounding this program were discovered.

In 2011, Idaho Power contracted with PECI to conduct an impact evaluation using the detailed measurement and evaluation plan provided by Paragon Consulting Services in 2010. This analysis used a baseline day methodology, which compares demand during the event day to demand of similar baseline days.

Data was collected using data loggers attached to the sample of 152 participants' A/C units to record the on/off state of their A/C compressors. This methodology provided a verification rate of ±10 percent precision at the 90-percent confidence level. The sample population was divided into three areas between two climate zones as well as by civilian and military sectors. The three areas were 1) Boise Metro area (cooling zone 3), 2) MHAFB (cooling zone 3), and 3) Pocatello/Twin Falls regions (cooling zone 2). In addition, indoor temperature sensors were installed inside select participant homes to determine the rise in indoor air temperatures during curtailment events.

Although the evaluation successfully measured the 2011 program impacts, the results were negatively impacted by the fact that Pocatello and Twin Falls participants' units were not being curtailed during events. This was due to a software-integration error described earlier. In addition, the company's provider of paging services discontinued service to the Mountain Home, MHAFB, and western Canyon County areas without notification to Idaho Power's sub-contractor.

PECI analyzed the demand reduction for each of the three participant samples. Excluding line losses, the average season demand reduction for the Boise metro population was 0.43 kW per unit, for a total of 12,614 kW. The average season demand reduction for the MHAFB population was 0.39 kW per unit and 0.55 kW on the 2011 system peak day. There were no demand savings for the Pocatello/Twin Falls region.

Idaho Power's 2011 system peak day of July 6, 2011, had an average demand reduction of 0.59 kW per unit, for a total of 21,200 kW, and a maximum reduction of 0.94 kW per unit, for a total of 33,609 kW. With line losses, the average and maximum demand reduction for the program totaled 23,956 kW and 37,978 kW, respectively.

For the Boise metro area, on July 6 the average peak reduction was 0.69 kW per unit. When PECI removed the non-responders and the non-contributors, they estimated that the average savings were 0.74 kW per unit and the maximum one-hour reduction was 0.84 kW per unit. These savings estimates

are in contrast with Idaho Power's previous impact evaluation of this program, which estimated a 1.12 kW per-unit demand reduction when cycling occurred on days greater than 95°Fahrenheit (F).

The evaluation also analyzed the energy savings for the program. It indicated that participants in the Boise Metro area saved on average 0.59 kWh per unit per event. This is the average of the per-unit energy savings, including snapback energy use. Also for the Boise metro area, the indoor temperature loggers net of non-contributors and non-responders indicated an average of 0.38°F indoor temperature increase. A copy of the report is in *Supplement 2: Evaluation*.

### 2012 Strategies

Based on the information from the impact evaluation and input from the EEAG, the software used with the AMI-compatible switches will be tested prior to the cycling season and monitored all summer to ensure proper dispatch and receipt of the communication signal. A comprehensive plan will be developed to cover the ongoing measurement and verification of the program. It will include seasonal testing, scheduled equipment field checks and testing, and other future evaluations.

The program target continues to be 40,000 total participants. Once the target is achieved, the company will continue A/C Cool Credit marketing and promotion to determine if saturation has been achieved or if it is possible to increase participation. If the program reaches a saturation point, it will then market only to this level of participation to compensate for attrition.

# **Ductless Heat Pump Pilot**

	2011	2010
Participation and Savings		
Participants (homes)	131	104
Energy Savings (kWh)	458,500	364,000
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$183,260	\$181,969
Oregon Energy Efficiency Rider	\$7,923	\$7,262
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$191,183	\$189,231
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.028	\$0.044
Total Resource Benefit/Cost Ratio	\$0.081	\$0.103
Program Life Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	3.84	
Total Resource Benefit/Cost Ratio	1.45	
Program Characteristics		
Program Jurisdiction	Idaho/Oregon	
Program Inception	2009	

## **Description**

Idaho Power joined the Northwest DHP Pilot project in 2009 and implemented the pilot throughout its service area. The company extended the project as an Idaho Power DHP pilot through 2011. A main goal of the Northwest DHP Pilot project was to promote DHP technology as an energy-saving alternative for customers who primarily heat their homes with electric heating. Now in the pilot's third year, Idaho Power offered customers a \$750 incentive payment to participate.

The program targets homes heated with electric zonal systems. Typically, these homes do not have air ducting and therefore cannot easily have a forced-air heat pump system installed. This provides the opportunity to encourage the use of DHPs. The types of electric zonal systems in the targeted homes include baseboards, ceiling cable, and wall-mounted units. Homes heated with fossil fuel forced-air systems or electric forced-air systems do not qualify. Qualifications include having one DHP indoor unit installed in the main living area of the home, since this is where most occupants spend the majority of their time. Since DHP systems can serve up to 1,000 square feet (ft²), this is the most efficient application of the technology.

Other Northwest DHP Pilot goals are to identify how much energy this technology saves in order to determine an RTF provisionally deemed-savings amount and to obtain customer satisfaction and behavior patterns regarding the units.

Field monitoring on selected homes throughout the Pacific Northwest, billing data analyses, and other evaluations continued through mid-2011. In the second half of 2011, the pilot entered the data analysis stage for report generation. Reports include a field monitoring evaluation report, billing analysis report, cost-effective report, and a final summary report. These reports are to be completed in 2012.

Complete details about the regional effort can be found at the project website at www.goingductless.com.

### 2011 Activities

On February 1, 2011, the incentive for the DHP Pilot changed from \$1,000 to \$750 to reflect the decreasing cost of these systems. A federal tax credit contained in section 25C of the Internal Revenue Service (IRS) tax code in 2010 remained in place for heat pumps for 2011. The amount of available tax credit was reduced from \$1,500 in 2010 to \$300 in 2011. The federal tax credits were not renewed for 2012. Idaho Power trade allies commented that the impact from the diminished tax credit available in 2011 resulted in a slower pace of residential DHP installations.

Several marketing methods were used during 2011 to promote the pilot. Examples include participating in trade shows, advertising in ten newspapers, sending 33,000 direct-mail letters, providing 350,000 bill inserts, and creating online video testimonials. The use of social-media websites became a new method in 2011 to increase DHP Pilot awareness.

To accelerate the expansion of the participating contractor network, factory training and orientation sessions were sponsored and provided by Idaho Power and local wholesalers in January, April, June, and October. In January and April, factory training sessions were also co-sponsored by Idaho Power and local wholesalers. In January, April, June, and October, orientation sessions were held at local hotels and Idaho Power facilities. In total, 122 technicians from 72 companies attended the sessions.

Expanding the network of participating contractors remained a key growth strategy for the DHP Pilot. The goal was to support contractors currently in the DHP Pilot while adding new contractors. In addition to meetings with contractors during training and orientation sessions, many one-on-one meetings were held. Combining factory training sessions and orientation sessions with other expansion strategies resulted in the addition of 12 contracting companies to the network, a 30-percent gain over 2010.

To hasten the residential adoption of the DHP technology in the Idaho Power service area, one strategy was to communicate with the complete supply chain. In the Idaho Power service area, there are several major wholesalers supplying DHPs to the contractors. The program specialist met with several wholesalers to provide them with the ability to promote DHPs with their contracting customers and to share helpful information. An example of this included a local wholesaler who provided contractors with DHP factory training and the Idaho Power orientation. This type of wholesaler event accelerates the ability to add contractors to the participating contractor network when compared to the time required to visit contractors individually. In additions, NEEA provided marketing and contractor training support for this program in 2011.

Idaho Power participated in a marketing campaign sponsored by NEEA in February and March. The City of Boise and two other cities in the northwest were chosen to participate in this campaign. The campaign included the broadcasting of a 30-second public service announcement (PSA) about DHPs. Idaho Power received increased phone calls from residents who had seen the PSA. In addition, DHP applications received after the campaign referenced the PSA as the reason for their awareness of the technology.

In a second initiative, Idaho Power and other northwestern utilities participated in a NEEA-sponsored marketing campaign for DHPs from September through December. The residents in the Idaho Power service area were targeted for the campaign using radio, television, and social-media website advertisements and the placement of advertisements on local billboards.

In a third initiative, NEEA held a one-day DHP workshop in Tacoma, Washington. The Idaho Power program specialist participated on the event committee targeted to installation contractors. Approximately 300 contractors from four states attended the November event, including six contractors from the Idaho Power service area.

#### Cost-Effectiveness

The RTF released provisional annual savings based on the use of one indoor-unit installation with at least one ton of heating capacity or greater and that employed an inverted driven compressor. The deemed savings per unit is estimated at 3,500 annual kWh until the pilot analysis is completed. The RTF deemed one savings metric regardless of prior cooling, the type of electric-resistance zonal heat the DHP was displacing, or the climate zone in which the unit is located. Using the RTF-deemed savings, this program is shown to be cost effective. For details see *Supplement 1: Cost-Effectiveness*.

### **Customer Satisfaction and Evaluations**

Idaho Power mailed a 12-question satisfaction survey to 156 participants in 2011, with 120 surveys returned, resulting in a 77-percent response rate. The surveys played an important role in identifying the types of marketing channels to be used going forward. The results of the 2011 surveys indicated that the majority of customers (66%) were aware of Idaho Power's pilot program prior to purchasing a DHP. The most commonly mentioned ways customers heard about the program were through an Idaho Power letter (49%) and through a heating, ventilation, and air conditioning (HVAC) contractor (30%). Overall, customer satisfaction was high among respondents, with 88 percent indicating they are very satisfied with the DHP pilot program. In addition, the majority of the customers (86%) indicated they would recommend the program to others. Results of the survey are in *Supplement 2: Evaluation*.

As part of the DHP Pilot, a NEEA contractor conducted quality assurance (QA) on-site verifications (OSV) at completed installations in Idaho Power's service area to ensure the installations complied with program requirements. The QAs and OSVs were beneficial for customers and the contractors. The inspector provided information to customers regarding maximizing the benefits of their DHP. The contractors received feedback from the inspector and review the installation requirements of the DHPs. A copy of the report is in *Supplement 2: Evaluation*.

In 2011, NEEA provided three MPER updates for the DHP pilot. The following are highlights for each of these reports. Copies of these reports can be found in *Supplement 2: Evaluation*.

### Report E11-225, released July 2011

NEEA hired Ecotope, Inc., to perform extensive laboratory analysis on two DHP systems from two manufacturers. The lab analysis established a detailed understanding of the system performance to support field monitoring and subsequent analyses of DHPs installed in actual houses. The results determined that the two systems demonstrated high performance and will provide energy savings in both retrofit and new applications. The actual savings will depend on factors, such as the installation location within the house and the interaction with the current heating system. In addition, the lab and field coefficient of performance (COP) measurements showed agreement. It was further determined that both systems performed well in cold temperatures.

### Report E11-224, released July 2011

The goal of this report was to report on early period findings from the DHP Pilot by market participant between late 2009 and into 2010. The findings include manufacturers reporting that the DHP Pilot was a

primary driver of growth in residential DHPs and that availability of these products had increased. The findings also identified the need to further develop the contractor tier of the supply chain.

### Report E11-229, released October 2011

The goal of this report was to report findings from the DHP Pilot by market participant. The findings include manufacturers reporting they more clearly understood the theory of the initiative and goals and were more engaged in it. At the installer tier, it was reported that the participating contractors had installed approximately 80 percent of the region's target-market installations. These contractors make up about 20 percent of the region's total number of contractors. Utilities participating increased slightly from 86 in 2009 to 91 in 2010. The majority of them reported sustained consumer demand for the DHP technology. The report stated that lower-performing geographical areas should be focused on to determine the reasons for low performance. The report also suggests that increased support should be provided to the contractor, manufacturer, and retailer. A copy of the report is in *Supplement 2: Evaluation*.

### 2012 Strategies

Idaho Power will sponsor and provide trainings and orientations to new and existing contractors in the program to assist them in meeting program requirements and furthering their product knowledge.

Expanding the network of participating contractors remains a key strategy for the DHP Pilot. The performance of the DHP Pilot is substantially dependent on the success of the contractor's ability to promote and leverage the program. Frequent individual meetings will be held in 2012. The program specialist, along with Idaho Power customer representatives (CR), will arrange these discussions. The goal is to support contractors currently in the DHP Pilot while adding new contractors.

To promote the residential adoption of the DHP technology in the Idaho Power service area, the strategy includes communicating with the complete supply chain. To accelerate the wholesaler's ability to increase contractor awareness of DHPs and the DHP Pilot, the program specialist will meet with the wholesalers and share helpful information.

Traditional and new marketing methods will be used in 2012 to reach the target audience. Traditional methods include direct-mail, billing inserts, trade show participation, customer newsletter, social media, and newspapers. Publishing Web-based customer testimonials about their DHP experience will be used as a new method.

# **Energy Efficient Lighting**

	2011	2010
Participation and Savings		
Participants (bulbs)	1,039,755	1,190,139
Energy Savings (kWh)	19,694,381	28,082,738
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$1,668,328	\$2,442,931
Oregon Energy Efficiency Rider	\$50,805	\$58,347
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$1,719,133	\$2,501,278
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.015	\$0.020
Total Resource Benefit/Cost Ratio	\$0.024	\$0.031
Program Life Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	4.20	
Total Resource Benefit/Cost Ratio	3.07	
Program Characteristics		
Program Jurisdiction	Idaho/Oregon	
Program Inception	2002	

## **Description**

The Energy Efficient Lighting program strives for residential energy savings through the replacement of less-efficient lighting with more-efficient technology. According to research performed by NEEA, the average older home has 38 lightbulbs. New homes have an average of 77 lightbulbs. Changing these bulbs represents a low-cost, easy way for all customers to achieve energy savings.

ENERGY STAR<sup>®</sup> qualified compact fluorescent lamps (CFL) are an alternative to standard incandescent lightbulbs that result in saved money, energy, and time. Bulbs come in a variety of wattages, colors, and styles, including bulbs for three-way lights and dimmable fixtures. ENERGY STAR bulbs use up to 75 percent less energy and last up to 10 times longer than incandescent bulbs.

### 2011 Activities

In 2011, the Energy Efficient Lighting program provided almost two-thirds of all energy savings derived from residential customer programs. This contribution is expected to decline in future years as CFL penetration rates increase and more efficient lighting standards are enforced.

The Energy Efficiency Lighting program follows a mark-down model that provides incentives to the manufacturers or retailers with savings passed onto the customer at the point of purchase. The benefits of this model are low administration costs, availability of products to the customer, and ability to provide an incentive for specific products. This model is used regionally for showerheads and light fixtures and has potential for other products, including appliances and electronics.

Two promotions, one for spiral bulbs and the other for specialty bulbs, were held during 2011. Idaho Power continued an independent retailer promotion focusing on spiral bulbs priced at about 99 cents per bulb. Idaho Power also participated in the Bonneville Power Administration (BPA) Simple Steps, Smart Savings<sup>™</sup> promotion focusing on specialty bulbs. Fluid Market Strategies managed both promotions, thus Idaho Power was able to leverage field staff services provided by Fluid Market Strategies and receive the lower regional promotion administrative rate for both promotions.

Additional 2011 program activities included direct distribution and retailer education events. Idaho Power has a small direct distribution program whereby bulbs are given directly to customers at appropriate venues. The idea is that, if given a free bulb, customers might try CFLs for the first time or be encouraged to replace additional lamps. Guidelines for approved venues and the direct distribution effort have been developed to ensure customer fairness.

During 2011, Idaho Power participated in six retailer events with large and small national retailers. Retailer events were designed to communicate directly to customers at the point of sale. Idaho Power staff set up tables with light displays at the entrances of stores and answered questions about CFLs.

The Energy Efficient Lighting program was one of three Idaho Power programs that sponsored the local semi-professional basketball team, the Idaho Stampede, at the team's Green Week games in April. As part of the promotion, Idaho Power developed a 30-second PSA on energy-efficient lighting that aired at two Idaho Stampede home games. The announcement was posted to Idaho Power's website and to YouTube. At the two Idaho Stampede games, the promotion included a lightbulb demonstration using a bicycle to power incandescent and CFL bulbs. Ninety-six people rode the bike at the games and learned firsthand how much less electricity CFL blubs use compared to incandescent bulbs.

### Cost-Effectiveness

In 2011, the RTF updated savings assumptions for spiral CFL bulbs by adjusting the baseline wattage and hours of operation. The new baseline accounts for the changes in bulb efficiency standards from the *Energy Independence and Security Act of 2007* (EISA). Additionally, the average CFL savings were calculated using room type, location, and storage rate. As a result, the annual savings for a retail spiral bulb dropped from 24 kWh to 16 kWh. This reduction in savings also attributed to the program's and the residential sector's overall decrease in savings in 2011 over 2010. Despite the change, the measure still remains cost effective. The savings for specialty bulbs remained unchanged. For detailed cost-effectiveness assumptions, metrics, and sources, see *Supplement 1: Cost-Effectiveness*.

### **Customer Satisfaction and Evaluations**

Market Strategies International conducted the *Idaho Power Residential 2010 End Use Survey* for the company. Results were made available in 2011 and were included in *Supplement 2: Evaluation* in the *Demand-Side Management 2010 Annual Report*. According to the study, 74 percent of customers have less than 10 CFLs, indicating there is market potential to install more CFLs per home in the future.

# 2012 Strategies

Idaho Power will combine both the spiral and specialty bulb incentives under the Simple Steps, Smart Savings promotion through the end of 2012. This will allow for streamlined administration and invoicing. It will also simplify customers' understanding of the promotion through a single message. Idaho Power will continue to distribute limited quantities of bulbs directly to customers at appropriate

public energy efficiency events and continue to participate in retailer educational events. The company will monitor the market and emerging technologies.

The EISA requires that by 2012 to 2014, specific lightbulbs must use 30 percent less energy than current incandescent bulbs. By 2020, incandescent bulbs must be at least 70 percent more efficient, effectively equal to the efficiency of today's CFLs.

Under the EISA, CFLs will be one of the options for customers. The market is unlikely to change immediately for several reasons. First, funding for enforcement has not been guaranteed for the lightbulb provisions under the EISA. Second, the efficiency standards are phased in over several years starting in 2012. The 100-watt (W) A-lamp bulbs must meet the standards by 2012. The 75 W bulbs must meet the standards by 2013, and 60 W bulbs by 2014. Third, many specialty bulbs, such as reflectors, globes, and three-way bulbs, are exempt from the law. Fourth, an incandescent bulb or other bulb technology that is 30 percent more efficient could satisfy the law; however, CFLs are 75 percent more efficient. In 2010, manufacturers introduced an EISA compliant halogen bulb that meets the requirements but only offers the minimum energy savings required under the law.

Light-emitting diode (LED) lightbulbs are on display at many major retailers. As of December 2011, there were approximately 373 products on the ENERGY STAR criteria list for LED replacement bulbs. Eighty-four percent are reflectors. Market prices for LED products are significantly higher than CFLs and EISA compliant halogens<sup>1</sup>. Idaho Power will continue to evaluate the price, availability, savings, and technology of LED lighting to see if it should be included in the future.

In 2012, Idaho Power will explore transitioning the Energy Efficient Lighting program to a more comprehensive retailer markdown program and explore additional product categories.

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Example: An ENERGY STAR qualified, 60 W equivalent A-lamp LED equivalent by Phillips retails between \$25.45 and \$38.50 according to Consumer Reports at <a href="http://www.consumerreports.org/cro/home-garden/home-improvement/lightbulbs/lightbulb-ratings/models/overview/philips-ambientled-12-5w-12e26a60-60w-409904-99040398.htm">http://www.consumerreports.org/cro/home-garden/home-improvement/lightbulbs/lightbulb-ratings/models/overview/philips-ambientled-12-5w-12e26a60-60w-409904-99040398.htm</a>.

# **Energy House Calls**

	2011	2010
Participation and Savings		
Participants (homes)	881	1,602
Energy Savings (kWh)	1,214,004	1,198,655
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$447,229	\$724,895
Oregon Energy Efficiency Rider	\$36,146	\$37,435
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$483,375	\$762,330
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.027	\$0.054
Total Resource Benefit/Cost Ratio	\$0.027	\$0.054
Program Life Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	3.07	
Total Resource Benefit/Cost Ratio	3.07	
Program Characteristics		
Program Jurisdiction	Idaho/Oregon	
Program Inception	2002	

# **Description**

The Energy House Calls program helps manufactured and mobile homeowners with electric heat reduce electricity use by improving the home's efficiency. This program provides free duct-sealing and additional efficiency measures to Idaho Power customers living in Idaho or Oregon in a manufactured or mobile home using an electric furnace or heat pump.

Services and products offered through the Energy House Calls program include duct testing and sealing according to Performance Tested Comfort System (PTCS) standards set by the RTF and adopted by the BPA; installing a CFL bulb; providing two furnace filters, along with replacement instructions; testing water heater temperature for proper setting; and distributing energy efficiency educational materials for manufactured home occupants. The value of the service to the customer is dependent on the complexity of the repair, although services are provided free to participants. The typical cost range of the average service call is \$325 to \$550. Idaho Power provides the customer with the sub-contractor contact information. Customers access the service by directly calling one of the recognized, certified sub-contractors specially trained to provide these services in their region.

#### 2011 Activities

Energy House Calls serviced 881 manufactured homes during 2011, resulting in 1,214,004 kWh savings.

Program delivery, through June 30, 2011, was under contract with Ecos IQ, Inc., a company with experience managing and supplying duct-sealing service programs. Ecos IQ, Inc., changed their company name to Ecova in mid-2011. Idaho Power ended its contract with Ecova on July 1, 2011.

Beginning July 1, 2011, the services provided by Ecova were brought under Idaho Power's control to be managed by the program specialist. Idaho Power now coordinates the sub-contractors performing local weatherization and energy efficiency services, processes sub-contractor paperwork, and pays sub-contractors directly for work performed.

In January, 2011, the Energy House Calls program terminated its contract with an installation sub-contractor due to unsatisfactory work performance. Throughout 2010, it was evident based on multiple QA checks that this sub-contractor was not performing up to the standards set forth by Idaho Power's Energy House Calls program. The company was given ample opportunity to correct these performance issues but did not. The two remaining sub-contractors absorbed the additional work with minimal customer impact.

Idaho Power contracted with Global Energy Partners, LLC in 2010 to provide a process evaluation of the Energy House Calls program. This evaluation included a program data review, program logic model, internal customer survey evaluation, industry best-practices comparison, conclusions, and recommendations. The final report was received in February 2011. A number of program changes occurred as a result of the recommendations from this report. Idaho Power's mailing list used to target electrically heated manufactured homes was updated. Using the Ecos IQ, Inc., database, participants' address information was integrated into Idaho Power's database, which allows Idaho Power to correctly identify past program participants with a successful match of over 70 percent. In conjunction with Ecos IQ, Inc., in 2011, mobile home parks that were not targeted in the past were contacted regarding the program via door hangers and direct-mail. In 2011, the Idaho Power website was enhanced to more clearly identify the sub-contractors and contact information. Sub-contractors prefer to set their own appointments with the program participants, thus inspection scheduling is not currently available online, as recommended by Global Energy Partners, LLC.

Marketing campaigns included a bill stuffer sent to all Idaho Power residential customers, a program brochure used by Idaho Power representatives in the field and at Idaho Power-sponsored events, and a direct-mail letter, including a Spanish version. The direct-mail letters were sent to specific sets of customers in five monthly waves during 2011. The bill insert was sent in August.

Idaho Power field staff CRs and call-center customer service representatives (CSR) are educated about the program and currently promote it to qualifying customers.

#### Cost-Effectiveness

Idaho Power is no longer claiming the savings for the CFL installed in the home due to the inability to verify the purchase source of the CFL. Because a CFL could be purchased at a retailer that is participating in the Energy Efficient Lighting program's Simple Steps, Smart Savings<sup>™</sup> promotion, the kWh savings could already be claimed in another program. Idaho Power will continue to pay for the installation of CFLs in manufactured homes participating in the Energy House Calls program but will no longer report the energy savings.

The RTF reviewed the savings assumptions for duct-sealing in manufactured homes in 2010; however, an error was discovered in the spreadsheet, and a revised spreadsheet was published in early 2011. The newly updated savings have been applied to Idaho Power homes serviced in 2011. As reported in the *Demand-Side Management 2010 Annual Report*, the regional utilities were still reporting the 2007 RTF deemed savings to BPA through its Planning, Tracking, and Reporting website. To align with the savings reported by the region to BPA, the 2007 RTF deemed savings were applied in 2010. Due to the increase in deemed savings from the RTF and the lower administration cost by having Idaho Power

manage the coordination of the sub-contractors, the administration cost per kWh decreased from \$0.636 in 2010 to \$0.398 in 2011. These changes increased the cost-effectiveness of the program. For more detailed information about the cost-effectiveness savings and assumptions, see *Supplement 1: Cost-Effectiveness*.

### **Customer Satisfaction and Evaluations**

To monitor QA in 2011, third-party audits were conducted on approximately 5 percent of the participant homes, resulting in 46 home inspections. The final round of QA results is being analyzed during the first quarter of 2012 and appears to be consistent with those conducted earlier in the year, which were very positive.

In 2011, Idaho Power contracted with ADM Associates, Inc., to conduct an impact evaluation of this program to measure and verify the energy-savings estimates attributable to the program in 2010.

ADM Associates, Inc., used a simple random sampling technique to perform the evaluation. Sampled participants were called to schedule OSV visits and to complete short verification surveys. The product of this effort was a total of 68 participant surveys, of which 23 included data and documentation collected during an OSV visit. This methodology provided a high verification rate of  $\pm 10$  percent precision at the 90-percent confidence level.

Realization rates varied across different measures. For duct-sealing, the biggest component of the program, the realization rate is 121.6 percent. For CFL lightbulbs, the realization rate is 86.1 percent. The results indicate program-level ex-post verified kWh annual savings of 1,363,098 kWh for 2010. Ex-post refers to "after the fact" savings (i.e., realized savings) after evaluation, measurement, or verification. Compared to ex-ante expected program savings of 1,198,655 in 2010, this represents a realization rate for annual kWh savings of 113.7 percent for the entire program. Ex-ante refers to "beforehand" savings (i.e., of expected savings) prior to evaluation, measurement, or verification. A copy of the report is included in *Supplement 2: Evaluation*.

# 2012 Strategies

Plans for the upcoming year include continuing the direct-mail campaign throughout the Idaho Power service area to increase market penetration. Because of the rapid turnover of customers in manufactured homes, Idaho Power updated the mailing list used for the direct-mail letters in 2011 and plans to do the same in 2012. The list is generated from homes designated as being manufactured or mobile on Idaho Power's CIS. The list is analyzed for homes that appear to use electric heat, based on kWh usage during winter and summer months. The company will also continue to explore low-cost and effective methods of marketing this program to all residential customers believed to have electrically heated manufactured homes. This form of marketing may yield additional word-of-mouth promotion to potential program participants.

# **ENERGY STAR® Homes Northwest**

	2011	2010
Participation and Savings		
Participants (homes)	308	630
Energy Savings (kWh)	728,030	883,260
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$255,405	\$369,344
Oregon Energy Efficiency Rider	\$4,357	\$6,093
Idaho Power Funds	\$0	\$168
Total Program Costs—All Sources	\$259,762	\$375,605
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.020	\$0.033
Total Resource Benefit/Cost Ratio	\$0.051	\$0.051
Program Life Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	3.59	
Total Resource Benefit/Cost Ratio	2.51	
Program Characteristics		
Program Jurisdiction	Idaho/Oregon	
Program Inception	2003	

## **Description**

ENERGY STAR® Homes Northwest is a regionally coordinated initiative supported by a partnership between Idaho Power and NEEA to improve and promote the construction of energy-efficient homes using guidelines set forth by the US Environmental Protection Agency (EPA). This program targets the lost-opportunity energy savings and summer-demand reduction that results by increasing the efficiency of the residential building envelope and air delivery system above current building codes and building practices.

The ENERGY STAR Homes Northwest residential construction program promotes homes that are at least 15 percent more energy efficient than those built to standard Idaho code. The program specifications for ENERGY STAR Homes Northwest are verified by independent, third-party home performance specialists (HPS) and are certified by the Washington State University Extension Energy Program, an organization that conducts the certification inspections throughout the state of Idaho and the EPA. The homes are more efficient, comfortable, and durable than standard homes constructed according to Idaho building codes.

Homes that earn the ENERGY STAR label include six required specifications. The specifications found in all ENERGY STAR qualified homes are 1) effective insulation, 2) high-performance windows, 3) air-tight construction and sealed ductwork, 4) energy-efficient lighting, 5) ENERGY STAR qualified appliances, and 6) efficient heating and cooling equipment.

In 2011, builders involved in ENERGY STAR Homes Northwest received a \$1,000 incentive per home built to the Northwest Builder Option Package (BOP) electrically heated homes standard. Builders who entered their homes in a Parade of Homes received the standard \$1,000 incentive plus an additional

\$500 incentive to encourage builders to construct ENERGY STAR homes. Incentives for non-electrically heated ENERGY STAR homes with building permits dated after December 31, 2010, were discontinued in 2011.

The Idaho Power program collaborates with many local entities for program promotion, such as ENERGY STAR Homes Northwest and builders. A large part of the program's role in 2011 was to provide marketing materials and conduct education and training activities for residential new construction industry partners.

### 2011 Activities

Although the 2011 housing market remained in a downturn throughout the Idaho Power service area and the program was transitioning to providing incentives for electrically heated homes only, there were 308 ENERGY STAR homes certified.

Idaho Power conducted numerous ENERGY STAR promotional activities during 2011. The company presented energy efficiency awards at the Building Contractors Association of Southwestern Idaho (BCASWI) Parade of Homes awards banquet and at the Snake River Valley Building Contractors Association (SRVBCA) Parade of Homes recognition picnic.

The company maintained a presence in the building industry by supporting the building contractors associations (BCA) throughout Idaho Power's service area. Specifically, the company participated in the BCASWI Builder's Expo, the SRVBCA Builder's Expo, the Magic Valley Builders Association Parade of Homes, the BCASWI Parade of Homes, SRVBCA Parade of Homes, Building Contractors Association of Southeast Idaho (BCASEI) Parade of Homes, and the Idaho BCA Convention.

Idaho Power partnered with Northwest ENERGY STAR to promote the 2011 Welcome Home Campaign. This campaign featured homes built by local ENERGY STAR builders and offered a sweepstakes prize to incent consumers to tour as many homes as possible. Builders submitted as many homes as they wished at a cost of \$400 per home. Upon entering the home, consumers were given a game card and asked to rate the home on various energy efficiency criteria. For each home rated, consumers were entered into a regional sweepstakes for \$25,000. The grand prize was given away in October. Idaho Power assisted in the promotion of the Welcome Home Campaign with media support.

Other marketing projects involved adding a message about this program to residential customers' electric bills. These bill messages encouraged Idaho Power customers to visit ENERGY STAR qualified homes in their local Parade of Homes events. A program bill stuffer sent information to all residential customers in the Idaho Power service area.

Idaho Power sponsored a NEEA ENERGY STAR Stakeholder Roundtable discussion. The roundtable was held at Idaho Power in May and included builders, raters, realtors, appraisers, local energy experts, and mortgage professionals. The purpose of the Stakeholder Roundtable discussion was to assess stakeholder engagement in the program and to encourage stakeholders to work together for program advancement. Idaho Power also sponsored an ENERGY STAR realtor training.

#### Cost-Effectiveness

In 2011, the baseline efficiencies for new ENERGY STAR qualifications were increased as a result of the adoption of the 2009 International Energy Conservation Code (IECC) standards in Idaho to a level

that caused gas heated homes to be determined not cost effective. Gas homes that were permitted under the 2010 building codes and constructed under the 2010 BOP were provided incentives in 2011.

Idaho Power has adopted savings for an electrically heated ENERGY STAR home going forward based on analysis done by the RTF that was released September 2010. The savings for an ENERGY STAR Home BOP with an air-source heat pump in Idaho Power's service area varies between 3,600 and 6,900 annual kWh of savings depending on the climate where the home is sited. For more detailed information about the cost-effectiveness savings, sources, calculations, and assumptions, see *Supplement 1: Cost-Effectiveness*.

### **Customer Satisfaction and Evaluations**

The HPS works with builders to ensure the ENERGY STAR homes are compliant with the Northwest electric-only BOP. Along with verifying the installation of building components and equipment through on-site inspections, prior to being qualified, the home must pass a blower door test, air-duct leakage test, and combustion back-draft tests.

The State-Certifying Organization (SCO) performs QA. The Washington State University Energy Extension Program is under contract with NEEA to perform QA and technical assistance duties within the State of Idaho. For QA purposes, 10 percent of homes certified in the ENERGY STAR Homes Northwest program are reviewed by the Washington State University Energy Extension Program.

### 2012 Strategies

As in 2011, builders involved in ENERGY STAR Homes Northwest during 2012 will receive a \$1,000 incentive per home built to the Northwest BOP, electric-only standards in Idaho Power's service area. Builders showcasing their electric-only home in a BCA Parade of Homes event will receive the standard \$1,000 incentive plus an additional \$500 parade marketing incentive.

Idaho Power plans to continue marketing efforts to help sell ENERGY STAR homes, including educating consumers, Realtors, and appraisers about the benefits and features of ENERGY STAR homes. Results will be influenced by the housing market's potential improvements.

# **Heating & Cooling Efficiency Program**

	2011	2010
Participation and Savings		
Participants (projects)	130	217
Energy Savings (kWh)	733,405	1,104,497
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$188,876	\$314,963
Oregon Energy Efficiency Rider	\$6,894	\$12,706
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$195,770	\$327,669
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.018	\$0.025
Total Resource Benefit/Cost Ratio	\$0.056	\$0.083
Program Life Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	3.05	
Total Resource Benefit/Cost Ratio	1.69	
Program Characteristics		
Program Jurisdiction	Idaho/Oregon	
Program Inception	2007	

### **Description**

The H&CE Program provides incentives for the purchase and proper installation of qualified heating and cooling equipment to residential customers.

The objective of the program is to acquire energy savings by providing customers with an energy-efficient alternative to other forms of electric space heating. Incentive payments are provided to residential customers and HVAC participating contractors who install eligible equipment. The eligible measures in 2011 included air-source heat pumps, open-loop water-source heat pumps, and evaporative coolers.

Heating and A/C companies authorized by Idaho Power as participating contractors for the program are required to perform all installations, with the exception of evaporative coolers, which can be self-installed. The program continued through 2011 with the same portfolio of incentives as in 2010.

#### 2011 Activities

The H&CE Program's list of measures and incentives during 2011 included the following:

- Air-source heat pump customer incentives for replacing an existing air-source heat pump with a new air-source heat pump were \$200 for minimum efficiency 8.2 heating seasonal performance factor (HSPF), and \$250 for minimum efficiency 8.5 HSPF.
- Customer incentives for replacing an existing electric, oil, or propane heating system with a new air-source heat pump were \$300 for minimum efficiency 8.2 HSPF, and \$400 for minimum

efficiency 8.5 HSPF. Homes with oil or propane heating systems must be located in areas where natural gas was not available.

- Incentives for customers or builders for new construction installing an air-source heat pump in a new home were \$300 for minimum efficiency 8.2 HSPF, and \$400 for minimum efficiency 8.5 HSPF.
- The open-loop water-source heat pump customer incentive for replacing an existing air-source heat pump with a new open-loop water-source heat pump was \$500 for minimum efficiency 3.5 COP.
- The customer incentive for replacing an existing electric, oil, or propane heating system with a new open-loop water-source heat pump was \$1,000 for minimum efficiency 3.5 COP. Homes with oil or propane heating systems must be located in areas where natural gas was not available.
- The incentive for customers with new construction installing an open-loop water-source heat pump in a new home was \$1,000 for minimum efficiency 3.5 COP.
- The evaporative-cooler customer incentive was \$150.

In 2011, continuous process improvements were made focusing on reducing complexity in the program. For example, the layout of program information on the website was improved. The area describing the available incentives was converted from verbiage to a chart in order to make it easier to read. Another example included modifying the incentive application forms on the website so they could be filled out online, then printed. Improvements were made to the marketing process. Contractors are now notified in detail about the marketing campaigns being implemented. For example, when print advertising or direct-mail is launched, all contractors are provided with the timing and details of the content in advance. This improves their ability to respond to the homeowner's inquiries.

Idaho Power contracted with Global Energy Partners, LLC in 2010 to provide a process evaluation of the program. This evaluation included a program data review, program logic model, internal customer survey evaluation, industry best-practices comparison, conclusions, and recommendations. The final report was received in February 2011 and noted that this program is "successful" and "well designed." The program "is meeting its goals," "incorporates several best practices," and "has an actionable marketing plan and satisfied participants."

The following are examples of changes implemented in the program as a result of recommendations made by the evaluation. Outreach has been increased to participating contractors by offering refresher training, increasing one-on-one discussions, and sharing marketing tactics. Increased support was provided to Idaho Power CRs to increase their effectiveness in promoting the program. Meetings with new contractors were increased to encourage participation in the program. Increased alignments with wholesalers were developed to share program information they could provide to their contractor customers. Incentive application sheets were improved to enable online editing. The company is currently analyzing other recommendations made by the consultants for possible implementation.

Expanding the network of participating contractors remained a key growth strategy for the program. The goal was to support contractors currently in the program, while adding new contractors. Meetings were held with several prospective contractors to support this strategy. Three companies were added in 2011 to the list of participating contractors.

Idaho Power held training sessions for contractors in June and October that provided general instruction on heat pumps and program guidelines. For a company to be eligible to join the program as a

participating contractor, they must have attended this training. In total, 22 technicians from 14 companies attended the sessions. These training sessions remain an important part of the program because the training creates opportunities to invite additional contractors into the program. Several marketing tactics were used during 2011 to reach the homeowner. Examples include print advertising in newspapers, direct-mail, bill inserts, and trade shows. The use of social-media websites became a new method in 2011 to increase program awareness.

To increase contractor participation in the program, stronger relationships with the equipment wholesalers' tier in the supply chain was necessary. In the Idaho Power service area, there are several major wholesalers supplying heat pumps to the contractors. The program specialist met with several wholesalers to provide them with the ability to promote the program with their contracting customers and to share helpful information.

Idaho Power uses a third-party contractor to process the incentive applications and perform OSVs. This contractor provides direct support to participating contractors and the residential program participants. In March 2010, Honeywell, Inc., was selected as the contractor. Idaho Power believes this change will provide lower costs, shorter turnaround time for processing incentive applications, and improved contractor and customer satisfaction. The program receives effective local support because the Honeywell, Inc., representative visits contractors at their businesses as needed. Idaho Power developed a portal that Honeywell, Inc., uses as a program database to process incentive applications. This allows Idaho Power to maintain the database within the company's system, which is secure and yet accessible to the third-party contractor.

A federal tax credit contained in section 25C of the IRS tax code in 2010 remained in place for heat pumps for all of 2011. The amount of available tax credit was reduced from \$1,500 in 2010 to \$300 in 2011. The federal tax credits were not renewed for 2012. Representatives of the industry commented that the impact from the diminished tax credit available in 2011 resulted in a slower pace of residential heat pump installations.

#### Cost-Effectiveness

Savings for all heat pump conversions from electric forced-air furnaces, propane, and oil furnaces come from deemed savings adopted by the RTF in May 2011, which resulted in minor changes from the original deemed savings decision from September 2010. In December 2011, an error was discovered in the RTF spreadsheet by Idaho Power. The original workbook included the full costs associated with the installation of the air-source heat pump rather than the incremental cost over the installation of a forced-air furnace and central A/C unit. The lower measure cost increased the cost-effectiveness of the measure and the program.

Savings for open-loop water-source heat pumps and air-source heat pump upgrades are documented in the 2009 Ecotope, Inc., *Heat Pump Sizing Specifications and Heat Pump Measures Savings* (HPMS) estimates that were provided in the *Demand-Side Management 2009 Annual Report* in *Supplement 2: Evaluation*. The RTF has not yet analyzed open-loop water-source heat pump systems. Heat pump upgrades were analyzed by the RTF using a baseline of an HSPF of 8.5 (seasonal energy efficiency ratio [SEER] 14) while Idaho Power continues to promote heat pump upgrades to an HSPF of 8.5, which provides substantial savings over the code baseline of a 7.7 HSPF heat pump. For more detailed information about the cost-effectiveness savings, calculations, and assumptions, see *Supplement 1: Cost-Effectiveness*.

### **Customer Satisfaction and Evaluations**

The program performed 12 random OSV, resulting in 9.4 percent of the total applicants. These OSV verified the information submitted on the paperwork matches what was actually installed at customers' sites. Overall, OSV results were favorable with respect to the contractors. The program continues to work with contractors to help them understand the importance of accurate documentation.

Idaho Power mailed a 15-question satisfaction survey to 158 participants in 2011, with 86 surveys returned, resulting in a 55-percent response rate. The responses provide useful insight regarding the value and performance of the program as seen from the participant's point of view. For example, most of the survey respondents (82.4%) were aware of the program prior to the purchase of the heat pump. The majority (72.3%) also stated that the incentive had either "some" or "a lot" of influence in the purchasing decision.

The survey results convey that contractor marketing efforts are having a significant influence in the market with 77 percent of respondents indicating that they heard of the program through an HVAC contractor. The marketing done by the HVAC contractors is something that Idaho Power encourages contractors to do, and their efforts parallel the marketing that Idaho Power performs.

The majority of respondents (80%) claimed that the contractors were very knowledgeable about the program. When asked if they would recommend the program to a friend or family member, the majority of those surveyed (76%) said they "definitely would."

Overall, satisfaction in the program is high, with 79 percent indicating they were "very satisfied" with the program. The surveys played an important role in identifying the types of marketing channels to be used going forward. Results of the survey are in *Supplement 2: Evaluation*.

## 2012 Strategies

Idaho Power will sponsor and provide training to new and existing contractors in the program, to assist them in meeting program requirements and furthering their product knowledge. Sessions will be held at both local wholesaler and Idaho Power facilities.

Expanding the network of participating contractors remains a key strategy for the program. The performance of the program is substantially dependent on the success of the contractors' abilities to promote and leverage the measures offered in the program. Frequent individual meetings will be held with contractors in 2012. The program specialist, along with Idaho Power CRs, will arrange the discussions. The goal is to support contractors currently in the program while adding new contractors.

To increase participation in the program in the Idaho Power service area, the program specialist will endeavor to strengthen relationships with equipment wholesalers. To accelerate the wholesalers' abilities to increase contractor awareness of the program, the program specialist will meet with the wholesalers and share helpful information.

New and traditional marketing methods will be used in 2012 to reach the target audience. Traditional methods will include direct-mail, billing inserts, trade show participation, customer newsletter, social media, and newspapers. Publishing Web-based customer testimonials about their participation in the program will be used as a new method.

# **Home Improvement Program**

	2011	2010
Participation and Savings		
Participants (homes)	2,275	3,537
Energy Savings (kWh)	917,519	3,986,199
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$666,041	\$944,716
Oregon Energy Efficiency Rider	\$0	\$0
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$666,041	\$944,716
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.038	\$0.016
Total Resource Benefit/Cost Ratio	\$0.155	\$0.035
Program Life Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	2.98	
Total Resource Benefit/Cost Ratio	1.11	
Program Characteristics		
Program Jurisdiction	Idaho	
Program Inception	2008	

## **Description**

The Home Improvement Program offers incentives to homeowners for installing attic insulation. The program pays an incentive of 15 cents per square foot to Idaho residential customers in the Idaho Power service area for additional attic insulation professionally installed. Any insulation contractor could provide this service in 2011. New insulation must increase the R-value by R-10 or greater. Incentives are paid on added attic insulation up to an R-50.

Through 2011, a large majority of Idaho Power's residential customers qualified for the program. To qualify for an incentive under this program, the home must be a single-family home, including duplexes and townhomes, with the attic area over conditioned space. The home must have central A/C or be electrically heated, and only attic insulation installed over conditioned space qualifies for an incentive. An insulation contractor must professionally install the insulation.

### 2011 Activities

Idaho Power continued outsourcing the program incentive processing to Advertising Checking Bureau (ACB), Inc., a third-party incentive-processing company. ACB, Inc., receives, enters, and processes all incentive applications for the Home Improvement Program. ACB, Inc., then electronically sends Idaho Power participant specific information along with their invoice for services.

Various marketing techniques were employed in 2011. Valpak inserts, in conjunction with the See ya later, refrigerator<sub>®</sub> program, were sent out monthly, February through June, and again August through October. These inserts were delivered to residents in the Capital, Canyon, and Eastern regions. Valpak is

not yet available in the Southern or Western regions. Phone call volume increased within days of each mailing.

A bill insert went out in November in conjunction with the See ya later, refrigerator program<sub>®</sub>. This bill insert resulted in an increased volume of calls regarding program details and provided opportunities for customer education.

#### Cost-Effectiveness

A comprehensive residential weatherization measure analysis was completed by the RTF in 2010 and included a detailed analysis at the climate zone level. This level of detail was absent from the savings estimates conducted for Idaho Power by Ecotope, Inc., following the summer attic insulation 2008 pilot. The initial RTF weatherization measures analysis conducted in 2010 did not include a review of the impact of central A/C savings attributable to attic insulation. A memo to the RTF in December 2010 documented SBW Consulting's contractor agreement with the RTF to do a comprehensive review of selected deemed measures, including central A/C savings impacts. As a result, SBW Consulting did a preliminary review of the impact of cooling savings on all residential weatherization measures, and the initial results were that savings attributable to cooling were minimal. Because this analysis was only preliminary and was not performed at the cooling zone specific level, Idaho Power requested that RTF staff make additional runs of the residential weatherization model with central A/C assumptions for all Idaho-specific climate zones to account for Idaho Power's unique climate zones. That analysis was received in October 2011, approved by the RTF in November 2011, and is posted as a supporting file at the RTF website at http://www.nwcouncil.org/energy/rtf/measures/support/Default.asp.

The 2011 RTF analysis indicated that the savings from attic insulation measures for gas-heated homes with central A/C was minimal in almost all climate zones. The result was that this measure for gas-heated homes was not cost effective. The 2008 Ecotope, Inc., analysis used an earlier version of the residential model as in the RTF. The 2008 results estimated 1,127 kWh of annual savings from central AC. Using the 2011 RTF analysis, applied to a similar home with the same R-value increase, indicated that the annual savings would be about 128 annual kWh or 11 percent of prior 2008 modeled savings.

In 2011, Idaho Power contracted with ADM Associates, Inc., to conduct an impact evaluation of the Home Improvement Program. Through this impact evaluation process and discussions with the third-party contractor who conducted the original savings analysis, it was found that the original savings analysis model had assumed that installation of high-efficiency windows had been simulated along with increased attic insulation. This assumption provided substantially more savings in the model compared to the savings attributable to an increase of attic insulation. A copy of the ADM Associates, Inc., 2011 impact evaluation of the Home Improvement Program in included in *Supplement 2: Evaluation*. For more detailed information about the cost-effectiveness calculations and assumptions, see *Supplement 1: Cost-Effectiveness*.

### **Customer Satisfaction and Evaluations**

Third-party contractors reviewed 10 percent of all insulation jobs completed in the Home Improvement Program for QA purposes. Of the 218 QA inspections completed in 2011, one contractor had three installations that were considered inadequate. These issues were addressed with the insulation installers and corrected.

Idaho Power contracted with Global Energy Partners, LLC in 2010 to provide a process evaluation of the Home Improvement Program. This evaluation included a program data review, program logic model, internal customer survey evaluation, industry best-practices comparison, conclusions, and recommendations. The final report was received in February 2011 and showed that the program has "surpassed its participation goal," is "cost effective," has a "very low cost per kWh saved," and "is very affordable for customers."

Recommendations for program improvement included the need to obtain more primary data from customers to determine customer/contractor satisfaction, barriers to participation, and customer receptiveness to offering additional measures. The evaluation also recommended that some level of contractor training should be offered. The company will be offering insulation contractor training throughout the service area beginning in February 2012. Contractors who have taken the training will be added to the program's Participating Contractor Network. Adding duct-sealing to the program was another recommendation the company will be incorporating into the program in April 2012. Prescriptive duct-sealing and air sealing will be required with insulation installations. Global Energy Partners, LLC also noted that the Web can be a useful tool to raise program awareness. A website for this purpose was created in 2008 when the program began. As new program requirements begin in April 2012, the website will be updated to reflect program changes. A recommendation was also made to raise the attic insulation cap from R-50 to R-60. This recommendation is also being incorporated into the updated program in April 2012.

Global Energy Partners, LLC also recommended offering an incentive for do-it-yourself insulation installation. Idaho Power feels that this measure would be difficult to control and costly to verify. An additional recommendation was to add mechanical attic ventilation along with insulation. Due to the cost of adding mechanical ventilation and lack of associated savings, the company feels that this measure would not be cost effective.

To address another recommendation by Global Energy Partners, LLC Idaho Power conducted a customer satisfaction survey in December 2011. The company mailed a 20-question satisfaction survey to 1,200 customers that participated in the program between October 2010 and September 2011. Customers were given the option to complete the survey online or on paper. Most of the respondents (91%) chose to complete and mail the paper survey, with 533 surveys completed, resulting in a 45-percent response rate. Survey results indicate that respondents heard about the program through a variety of means, such as the "insulation contractor" (35%), "information with the Idaho Power bill" (33%), and "through friends and relatives" (27%). Most respondents participated in the program to "reduce energy costs" (91%). In regards to the ease of participation, most respondents (84%) felt that it was "very easy" to participate in the program, and a majority (67%) "strongly agree" that they received their payment in the time that they expected. Overall, customer satisfaction is high, with 87 percent of respondents indicating they were "very satisfied" with the program and 84 percent indicating they "definitely would" recommend the program to a friend or relative. The complete survey is provided in *Supplement 2: Evaluation*.

The "How did you hear about the program?" question was added to the Qualification Application in 2011. This question was listed as an "optional" question on the application form. Although the question was answered on less than 1 percent of the applications, of those that did respond, the majority were split between "Insulation contractor" and "Idaho Power bill insert."

In 2011, Idaho Power contracted with ADM Associates, Inc., to conduct an impact evaluation of this program to measure and verify the energy-savings estimates attributable to the program in 2010. Idaho Power received the final report from this evaluation on December 30, 2011. The sampling plan

consisted of 71 verification survey participants with a sub-sample of 24 on-site home verifications. This methodology provided a high verification rate of  $\pm 10$  percent precision at the 90-percent confidence level.

The evaluation showed an ex-post verified savings of 1,099,456 kWh per year for 2010 compared to an ex-ante savings estimate of 3,986,199 annual kWh, indicating a total verified realization rate of 28 percent. The lower-than-anticipated realization rate was due to the mix of actual participant baseline levels differing vastly from program assumptions and the use of overstated deemed unit energy-savings values provided by a third party. A copy of the report is in *Supplement 2: Evaluation*.

ADM Associates, Inc., reported in the evaluation report that in reviewing the Home Improvement Program tracking data, they found 11 participants who did not have their primary heating source and cooling equipment listed, which disqualified them from the program. ADM Associates, Inc., also recommended using more granular savings data since it is now available from the RTF. While verifying the 2011 Home Improvement Program savings for 2011, Idaho Power discovered approximately 40 instances of incentives being paid to participants who submitted non-qualifying applications. Twenty-four incentives were paid to participants with non-electric heat and evaporative coolers or room air conditioners, while 16 incentives were paid to participants with non-electric heat and no central cooling equipment.

This situation occurred during the verification process after receiving application data from ACB, Inc. When the participant data is transferred into Idaho Power's database, applications should be reviewed for missing data fields and non-qualifying applicants. Since the discovery of this situation, Idaho Power has identified a process that will ensure future missing data fields or non-qualifying applicants are identified. When identified, the records containing them can then returned to ACB, Inc., and/or the customer to obtain further information prior to incentive payment. Since these costs were included in the cost-effectiveness analysis, without any associated savings, the cost-effectiveness was slightly reduced.

# 2012 Strategies

Idaho Power is currently planning updates to the Home Improvement Program that will take effect in spring 2012. Two new measures, wall insulation and floor insulation for electrically heated homes, will be added to the program. In addition, all three insulation measures will require air and duct-sealing in advance of insulation installation. The program will also transition to a Participating Contractor Network. Contractors must satisfactorily complete an Idaho Power-provided training class to participate in the program. Through March 31, 2012, any insulation contractor can provide this service. In fall 2012, Idaho Power plans to add windows as a Home Improvement Program measure. As a result of the impact evaluation conducted by ADM Associates, Inc., in 2011, and the cost-effectiveness analysis, the program will no longer offer attic insulation to gas-heated homes.

A new program brochure and Web page update is being developed and will launch in April 2012, in conjunction with the program updates. An informational bill stuffer is planned for April. In addition, movie theater advertising is planned for June, July, and August in the Boise, Nampa, and Pocatello markets.

# **Home Products Program**

	2011	2010
Participation and Savings		
Participants (appliances/fixtures)	15,896	16,322
Energy Savings (kWh)	1,485,326	1,443,580
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$619,764	\$813,171
Oregon Energy Efficiency Rider	\$18,559	\$18,990
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$638,323	\$832,161
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.034	\$0.057
Total Resource Benefit/Cost Ratio	\$0.080	\$0.070
Program Life Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	2.51	
Total Resource Benefit/Cost Ratio	1.45	
Program Characteristics		
Program Jurisdiction	Idaho/Oregon	
Program Inception	2008	

### **Description**

The Home Products Program provides an incentive payment to Idaho and Oregon residential customers for purchasing ENERGY STAR® qualified appliances, lighting, or other products. ENERGY STAR is a government-backed program designating products as energy efficient. Appliances and products with ENERGY STAR must meet higher, stricter efficiency criteria than federal standards.

Current offerings and related incentives include ENERGY STAR qualified clothes washers (\$50), refrigerators (\$30), freezers (\$20), light fixtures (up to \$15 per fixture), ceiling fans with light kits, or ceiling fan light-kit attachments (up to \$20 per fixture). Program participation is a simple process for customers. The customer completes the brief incentive application, submits it with a copy of the sales receipt, and, if the purchase qualifies, receives an incentive check by mail.

The Home Products Program also has two additional product offerings, providing the retailer/manufacturer the incentive as opposed to the consumer. These products are select energy-efficient electronics and low-flow showerheads. This "manufacturer buy-down" method can translate into lower retail prices on the most efficient units.

The purpose of paying incentives to retailers and manufacturers rather than the end consumer is intended to drive the manufacture, distribution, and promotion of more energy-efficient consumer products at the retail level. This mid/upstream incentive model is potentially powerful in changing markets when incentive dollars are small per product but the product category has a high volume of sales.

"Upstream and midstream incentives offer the advantage that incentive amounts can sometimes be lower, as market partners may need less 'convincing' to make or sell efficient technologies."<sup>2</sup>

### 2011 Activities

Marketing of the Home Products Program to customers occurs primarily through retail outlets. Idaho Power provided information to store managers and employees through training sessions at store staff meetings and through periodic visits by Idaho Power representatives. Materials, such as program brochures with application forms, were distributed to nearly 100 retail stores as needed.

In 2011, Idaho Power continued outsourcing the processing of applications for the Home Products Program to ACB, Inc., a third-party vendor. Participants have the option of online and paper applications. Both methods require that the customer submit a hard copy of the sales receipt to confirm the product purchase.

Idaho Power promoted the program to residential customers via retail store salespeople, bill stuffers, community promotions, Idaho Power field staff, and other outreach activities. During 2011, bill stuffers detailing the program were mailed to all residential customers, one during the summer (July) and one during the holiday season (November).

With feedback from retailers, a separate program brochure was created to highlight ceiling fans and light fixtures. The content remained the same as the original brochure but included new graphics. Brochures were placed in lighting showrooms and lighting sections of large retail stores. The brochure also serves as the application.

An option on the application allows customers to donate their entire incentive to Project Share, an energy assistance program in which Idaho Power partners with the Salvation Army to help those in need. In 2011, Home Products Program participants donated \$490 to this cause. A Project Share donation "Thank You" card created specifically for the Home Products Program was sent to customers who donated their incentive.

In addition to brochures, fixture and fan hang-tags, and static clings—small, sticky decals—were distributed to retailers for placement on qualifying products. The prominent focus for using hang-tags and clings was to highlight the respective incentive amounts and eligible products.

Through the Home Products Program, Idaho Power paid 15,896 incentives during 2011, resulting in 1,485,326 kWh savings. Incentives were issued for approximately 6,600 clothes washers, 4,400 refrigerators, 400 freezers, 400 light fixtures, 30 ceiling fans, and 3,781 showerheads.

#### Cost-Effectiveness

In 2011, Idaho Power contracted with ADM Associates, Inc., to conduct an impact evaluation to review the savings Idaho Power claimed in 2010. The report supported many of the deemed values or methodologies used by Idaho Power to estimate energy savings in 2010. As a result of the evaluation, Idaho Power updated several of its savings assumptions.

<sup>&</sup>lt;sup>2</sup> http://www.epa.gov/cleanenergy/documents/suca/program\_incentives.pdf .

ADM Associates, Inc., approved Idaho Power's methodology to adjust the deemed RTF savings downwards for low-flow showerheads based on the electric hot-water heater saturation in the Idaho Power service area. The adjustment is based on information from the 2010 Home Energy Survey. The measures have remained unchanged and are still cost effective.

In previous years, Idaho Power has used either the Nexant *Demand Side Management Potential Study* (2009) or RTF deemed values for clothes washers from any type of domestic hot water and any type-dryer. However, ADM Associates, Inc., noted that the savings were never adjusted to reflect Idaho Power's saturation for electric hot-water heaters and electric dryers. ADM Associates, Inc., recommended that the RTF savings be adjusted accordingly based on the 2010 Home Energy Survey and the savings reflect the modified energy factor (MEF) of the equipment. When MEFs are used, the clothes washers in the higher MEF tiers are no longer cost effective due to the higher incremental participant costs. The higher costs also reduced the program's overall cost-effectiveness. Idaho Power reviewed additional non-electric benefits and included the participant gas bill savings based on the RTF's assumption of therms saved per year. The company plans to review the participant costs and research additional non-electric benefits, such as water savings, to improve the measure and program cost-effectiveness.

In previous years, Idaho Power also used deemed values from the Nexant study or the RTF for average ENERGY STAR refrigerators or freezers. In the *Impact Evaluation of 2010 Home Products Program*, ADM Associates, Inc., reviewed the RTF's underlying assumptions and determined that they were reasonable. However, because the company recorded the model numbers of each rebated appliance in the program's database, ADM Associates, Inc., was able to use different deemed values based on the freezer's or refrigerator's individual configuration. As a result, Idaho Power is now reporting savings on the specific model type. The measures still remain cost effective.

ADM Associates, Inc., also reviewed the savings for ceiling fans and ceiling fan light kits. Idaho Power uses the ENERGY STAR calculator to determine the savings for ceiling fans in the mountain region. ADM Associates, Inc., reviewed the assumptions used in the calculator and compared them to information on the models rebated through the program in 2010 as well as the basic CFL usage assumption used by the RTF. As a result, ADM Associates, Inc., reduced the annual savings estimates from 159.36 kWh to 59 kWh. Additionally, ADM Associates, Inc., reviewed the assumptions used to determine the energy savings from a ceiling fan light kit. Idaho Power assumed that each light kit would include three CFLs and used the deemed savings for retail spiral bulb CFLs from the RTF. Of the few models that were rebated in 2010, each light kit contained only two CFLs. Additionally, the RTF updated the baseline assumptions for CFLs in 2011 and reduced the annual savings from 24 kW to 16 kWh. In light of the updated savings assumptions from ADM Associates, Inc., and the RTF, ceiling fans and ceiling fan light kits were shown to be not cost-effective in 2011. As a result, these measures will be removed from the program in March 2012.

Finally, ADM Associates, Inc., reviewed the savings for ENERGY STAR light fixtures and LED light fixtures. LED light fixtures were shown to be not cost effective in the *Demand-Side Management 2010 Annual Report*. After ADM Associates, Inc., confirmed the RTF assumption, Idaho Power has removed LED light fixtures from the program offerings in 2012. As for ENERGY STAR light fixtures, ADM Associates, Inc., determined that the RTF assumptions were reasonable. In 2011, the RTF updated the savings for light fixtures and reduced the annual savings from 74 kW to 49 kWh. The measure still remains cost effective. For more detailed information about the cost-effectiveness of these measures, see *Supplement 1: Cost-Effectiveness*.

### **Customer Satisfaction and Evaluations**

Retail salespeople assisted in promoting the program to customers. Information gathered from a question on the incentive application form indicated salespeople are a proven, effective avenue for marketing the program. Eighty-three percent of the responses indicated salespeople were how they learned about the incentive program. Seven percent learned from in-store materials (brochures), 6 percent from one of two bill inserts sent to all residential customers, 2 percent from the Idaho Power website, 1 percent from newspaper/radio, and 1 percent from referral.

In 2011, Idaho Power contracted with ADM Associates, Inc., to conduct a comprehensive impact evaluation of the 2010 Home Products Program results. A stratified sampling technique was used to select program participants for OSV visits and a short verification survey. Specifically, the sample was stratified by measure type into three strata: clothes washers, showerheads, and other appliances/fixtures. Clothes washers comprised a separate stratum because of the variance in savings unique to the measure resulting from different water-heating and clothes dryer fuel sources. The reason for stratification for showerheads was that this measure is discounted at the retailer level rather than the customer level.

Realization rates varied across different measures. Clothes washers were the biggest component of the program and had an energy savings realization rate of 90.9 percent. Other products rebated at the customer level revealed a realization rate of 99.2 percent, while showerheads, which receive upstream incentives, had a realization rate of 111.8 percent. The results of this evaluation determined program-level ex-post verified kWh annual savings of 1,368,687 kWh for 2010. Compared to ex-ante expected annual program savings of 1,443,580 kWh, this represents a realization rate for kWh savings of 93.4 percent for the entire program. A copy of the report is in *Supplement 2: Evaluation*.

### 2012 Strategies

Based on the 2011 success, the marketing strategy for 2012 will remain similar, with only minimal adjustments and updates as needed. Bill stuffers, in-store brochures, hang-tags, and clings will be the primary marketing avenues.

Some changes to the product offerings in 2012 will occur. Light fixtures will be moved into the Energy Efficiency Lighting program. Based on the impact evaluation conducted by ADM Associates, Inc., in 2011, ceiling fans with lights and light kits are being removed from the program. The evaluation showed them to be not cost effective. Idaho Power will continually review potential products for addition to the program during 2012 and beyond.

The company expects participation for 2012 to remain fairly constant or only slightly decrease from 2011 due to phasing out the above-mentioned products. In 2012, Idaho Power will explore transitioning the light fixtures and showerheads to a more comprehensive retailer markdown program and explore additional product categories for this type of program model.

# **Oregon Residential Weatherization**

	2011	2010
Participation and Savings		
Participants (homes)	8	1
Energy Savings (kWh)	21,908	320
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$0	\$0
Oregon Energy Efficiency Rider	\$6,690	\$4,575
Idaho Power Funds	\$1,236	\$1,475
Total Program Costs—All Sources	\$7,926	\$6,050
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.021	\$0.011
Total Resource Benefit/Cost Ratio	\$0.027	\$0.062
Program Life Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	3.54	
Total Resource Benefit/Cost Ratio	1.42	
Program Characteristics		
Program Jurisdiction	Oregon	
Program Inception	1980	

### **Description**

Idaho Power offers free energy audits for electrically heated customer homes within the Oregon service area. This is a statutory program offered under Oregon Rate Schedule No. 78. Upon a customer's request, an Idaho Power representative visits the home to analyze it for energy efficiency opportunities. An estimate of costs and savings for specific measures is given to the customer. Idaho Power offers financial assistance, either as a cash incentive or a 6.5-percent interest loan, for a portion of the costs for weatherization measures.

#### 2011 Activities

During the month of June, Idaho Power sent every Oregon residential customer an informational brochure about energy audits and home weatherization financing. A total of 17 Oregon customers responded. Each of the 17 customers returned a card from the brochure indicating interest in a home energy audit, weatherization loan, or incentive payment. Fifteen audits and responses to customer inquiries to the program were completed, with eight incentives paid.

Idaho Power issued eight rebates totaling \$3,205 for 21,908 kWh savings. All rebates and related savings were attributed to the addition of ceiling insulation. There were no loans made through this program during 2011. Two customer responses were directed to Cascade Natural Gas because their heating source was gas. No customers canceled their request.

### Cost-Effectiveness

The Oregon Residential Weatherization program is a statutory program as provided for in Oregon Rate Schedule No. 78. The cost-effectiveness of this program is defined within this tariff. Page 4 of Oregon Rate Schedule No. 78 lists the measures determined to be cost effective and the required measure life cycles for specific measures. This tariff also includes the cost-effective limit (CEL) for measure lives of 7, 15, 25, and 30 years.

Eight projects were completed under this program in 2011, with all of the projects consisting of increasing attic insulation. The projects combined for an annual energy savings of 21,908 kWh at a levelized TRC per kWh of 3.4 cents over the 30-year measure life as defined by the Oregon Rate Schedule No. 78. The CEL for insulation is \$1.34 per annual kWh saved, and since the actual levelized cost of energy savings for the 2011 projects was 3.4 cents from the TRC perspective, these projects are considered cost effective.

### 2012 Strategies

Plans for the upcoming year include notifying customers in their May bill about the program. Idaho Power will complete requested audits and fulfill all cost-effective rebate and loan applications.

# **Rebate Advantage**

	2011	2010
Participation and Savings		
Participants (homes)	25	35
Energy Savings (kWh)	159,325	164,894
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$59,241	\$34,283
Oregon Energy Efficiency Rider	\$4,228	\$5,119
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$63,469	\$39,402
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.024	\$0.018
Total Resource Benefit/Cost Ratio	\$0.033	\$0.031
Program Life Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	8.35	
Total Resource Benefit/Cost Ratio	3.67	
Program Characteristics		
Program Jurisdiction	Idaho/Oregon	
Program Inception	2003	

### **Description**

Idaho Power residential customers who purchase a new, all-electric ENERGY STAR® qualified manufactured home and site it in Idaho Power's service area are eligible for a \$500 rebate through the Rebate Advantage program. Salespersons receive a \$100 incentive for each qualified home they sell.

In addition to offering financial incentives, the Rebate Advantage program promotes and educates buyers and retailers of manufactured homes about the benefits of owning energy-efficient models. The Northwest Energy Efficient Manufactured Housing Program (NEEM) establishes quality control and energy efficiency specifications for qualified homes. NEEM is a consortium of manufacturers and state energy offices in the Northwest. In addition to specifications and quality, NEEM tracks the production and on-site performance of ENERGY STAR qualified manufactured homes.

The Rebate Advantage program helps Idaho Power customers with the initial costs associated with purchasing a new, energy-efficient ENERGY STAR qualified manufactured home. This enables the homebuyer to enjoy the long-term benefit of lower electric bills and greater comfort provided by these homes. In addition, Idaho Power encourages sales consultants to discuss energy efficiency with their customers during the sales process.

#### 2011 Activities

During 2011, Idaho Power paid 25 incentives on new manufactured homes, which accounted for 159,325 annual kWh savings. The depressed home economy continued in 2011 and had a dramatic effect on the entire housing market, contributing to a lower number of participants than expected.

2011's marketing strategy included maintaining the Google AdWords campaign, two bill inserts, and a billboard campaign. The program specialist and Idaho Power field staff visited numerous dealerships throughout the company's service area to gauge salespeople's interest in certain personal development trainings Idaho Power was considering offering and to gain a better understanding of the current manufactured housing market.

Idaho Power continued to support dealerships in 2011 by providing them with Rebate Advantage brochures and applications as needed. CRs visited these dealerships to distribute material, promote the program, and answer any questions salespersons may have had.

### Cost-Effectiveness

In 2011, RTF updated deemed savings for ENERGY STAR manufactured homes. Idaho Power has applied these savings to homes sited within its service area. These savings are specific to the heating and cooling zones in Idaho Power's service area where the home will be placed. In addition to varying by climate zone, savings vary depending on whether the customer purchases a home with or without central A/C or if a heat pump or forced-air furnace is chosen. For detailed lists of savings by climate zone and housing options, see *Supplement 1: Cost-Effectiveness*.

### **Customer Satisfaction and Evaluations**

In 2011, Idaho Power contracted with ADM Associates, Inc., to conduct an impact evaluation of the Rebate Advantage program to measure and verify the energy-savings estimates attributable to the program in 2010.

The sampling plan consisted of four data collection efforts that included on-site inspection of manufacturer's facilities, on-site inspections of participating homes, a telephone participant verification survey, and a telephone verification survey with participating retailers. This methodology provided a high verification rate of  $\pm 10$  percent precision at the 90-percent confidence level.

The evaluation results signify a verified ex-post energy savings of 167,681 annual kWh for 2010 as compared to an ex-ante energy savings of 164,894 annual kWh savings, resulting in a total program realization rate of 102 percent. Results from the customer survey indicate that 94 percent of program participants feel their home is more comfortable, and 71 percent indicated they noticed a reduction in their energy bills since moving into their manufactured home. A copy of the report is in *Supplement 2: Evaluation*.

# 2012 Strategies

Idaho Power plans to continue the Rebate Advantage program in 2012, explore new marketing methods, and promote the program using internal resources and externally at the dealership level. CRs will enhance relationships with dealerships by visiting each dealership, offering program support, answering questions, and distributing materials. The interaction of local Idaho Power personnel with the local dealers reemphasizes the importance of promoting the benefits of ENERGY STAR qualified homes and products.

Idaho Power will continue to explore additional marketing strategies directed at the end consumer. These will include continuation and revision, as needed, of the Google AdWords campaign and bill inserts sent to all residential customers, which may be shared with the Home Products Program as was done in 2011. Strategies may include another billboard campaign and other banner-type promotional

materials at the physical dealerships. Interest in this option will be gauged by CRs visiting the dealerships.

# See ya later, refrigerator®

	2011	2010
Participation and Savings		
Participants (refrigerators/freezers)	3,449	3,152
Energy Savings (kWh)	1,712,423	1,567,736
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$634,967	\$548,872
Oregon Energy Efficiency Rider	\$19,426	\$16,207
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$654,393	\$565,079
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.046	0.054
Total Resource Benefit/Cost Ratio	\$0.046	0.054
Program Life Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.66	
Total Resource Benefit/Cost Ratio	1.66	
Program Characteristics		
Program Jurisdiction	Idaho/Oregon	
Program Inception	2009	

## **Description**

The See ya later, refrigerator<sub>®</sub> program acquires energy savings through the removal of qualified refrigerators and stand alone freezers in residential homes throughout Idaho Power's service area. Each application is screened upon enrollment by Idaho Power to assess that each refrigerator or freezer unit under consideration meets all program eligibility requirements, including the requirement that a unit must be residential-grade, a minimum of 10 cubic feet as measured using inside dimensions, no larger than 30 cubic feet, and in working condition. Customers receive a \$30 incentive check mailed after the removal of the unit. The program targets older, extra units for maximum savings.

Idaho Power contracts with JACO to provide most services for this program, including customer service and scheduling, unit pickup, unit recycling, reporting, marketing assistance, and incentive payments. Idaho Power provides participant confirmation, supplemental marketing, and internal program administration.

#### 2011 Activities

Idaho Power continued to offer See ya later, refrigerator<sub>®</sub> participants the option to, upon enrollment, receive their \$30 incentive or donate it to Project Share. Project Share is an energy assistance program in partnership with the Salvation Army. The program helps customers in need pay for energy services, including fuel bills and furnace repairs. In 2011, 2.4 percent of Idaho Power's See ya later, refrigerator<sub>®</sub> participants chose this option, raising \$2,580 for Project Share.

In 2011, the program tested several new marketing channels, including a sponsorship with a local sports team and direct-mail.

The See ya later, refrigerator<sub>®</sub> program was one of three programs that sponsored the Idaho Stampede's Green Week games. The promotion included highlighting Idaho Power's energy efficiency programs at two home games through announcements, posters, and staffed displays providing attendees the opportunity to talk with Idaho Power about energy efficiency.

As part of the promotion, Idaho Power developed a 30-second PSA on See ya later, refrigerator<sub>®</sub>, which aired at both home games. The PSA posted to Idaho Power's website and YouTube.

To encourage interaction between attendees and Idaho Power staff, Idaho Power ran a Text 2 Win promotion. To play, fans had to visit the Idaho Power display to receive a keyword related to energy efficiency. Fans then texted the word to a secure number and received a message back about energy efficiency. This was the first time Idaho Power used this type of promotion. Results show Idaho Power reached 132 fans, or 2.3 percent. For this type of promotion, 2 to 3 percent is normal. Each participant submitted an average of three texts, meaning they had to learn about at least three energy-efficient programs. Of the participants, 90 learned about Idaho Power's refrigerator recycling program, and 116 fans learned about Idaho Power's energy efficiency programs in general.

The program tested direct-mail through magnet postcard mailers during 2011. Mailers were sent to 28,000 customers identified through market segmentation as likely to have secondary refrigerators. This was the first time direct-mail was used for this program.

In 2011, Idaho Power renegotiated and extended its contract with JACO and plans to continue the program through 2014. Idaho Power contracted with ADM Associates, Inc., to conduct a process evaluation. Idaho Power received results in the first quarter of 2012.

### Cost-Effectiveness

No changes occurred to the assumptions that drive the cost-effectiveness of the two measures that are part of this program which include the decommissioning of secondary freezers and refrigerators. All cost-effective analyses were based on the July 2010 approval decision by the RTF. Both program measures remained cost effective in 2011. For details, see *Supplement 1: Cost-Effectiveness*.

#### **Customer Satisfaction and Evaluations**

JACO tracks individual statistics for each unit collected, including information on how the customer heard about the program and when the customer enrolled. Statistics about the unit collected include the age of the unit, its location on the customer's property, and other data.

Results of the 2011 unit data showed that 20 percent of units the program picked up were stand-alone freezers, and 80 percent of the units were refrigerators. Fifty-three percent of the units were secondary, 28 percent primary, and 19 percent were unknown. This shows slight improvement in the collection of secondary units over 2010. The average vintage of units collected was 1984, with 64 percent of the units manufactured from 1965 to 1990, generally the least efficient years of manufacture. In 2010, 63 percent of units were of this vintage, suggesting the program is still collecting older units.

The program reclaims or recycles up to 95 percent of the components of each unit collected. In 2011, this translated into over 458,993 pounds of material. Reclaimed materials may include oils or refrigerants that can be distilled, then reused.

JACO and Idaho Power also track data related to the marketing effectiveness of the program. Results of customer tracking information indicate 52 percent of customers report learning of the program through

bill inserts that ran in January, March, June, and October/November (spanned across two months). A portion of these customers reporting bill inserts may also be referring to the article that appeared in the *Customer Connection* newsletter issued in June, which is an insert to the bill as well. Nineteen percent of customers report learning of the program through a friend or neighbor. Other word-of-mouth activities, such as events and utility personnel, account for an additional three percent of signups. Although appliance retailers also refer customers to the program, Idaho Power does not pursue this marketing channel because a retailer selling a new unit will usually pick up and recycle the old one. Newspaper advertisements comprise 4 percent of enrollments. Eighty-one percent of customers who enroll use the toll-free telephone number, and 19 percent use the online enrollment form. Idaho Power uses the customer information that JACO and the company collect to target future marketing efforts and increase the effectiveness of marketing while reducing the cost.

Figure 7 indicates information sources and the percentage of customers reporting hearing about the program through particular sources. The category "Other" includes sources such as community event, repeat customer, truck ad, and unknown sources. The report is provided in *Supplement 2: Evaluation*.

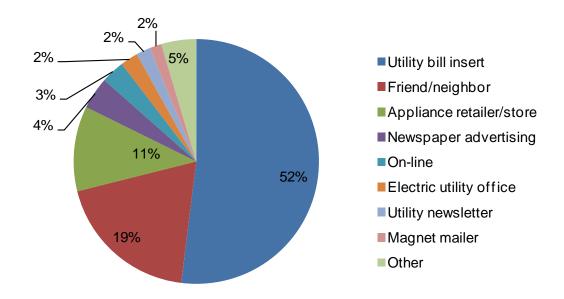


Figure 7. How customers heard about See ya later, refrigerator®

In 2011, Idaho Power contracted with ADM Associates, Inc., to conduct a process evaluation of the 2009 to 2011 See ya later, refrigerator<sub>®</sub> program cycle. The report focuses on participant and stakeholder perspectives from the 2011 program year while summarizing findings and program activity for the full program cycle. This evaluation included the review of program documentation, interviews with Idaho Power and JACO Environmental staff, and a customer satisfaction survey.

Customer satisfaction levels were determined through a telephone survey of a randomly selected sample of 386 participants. The results of the customer satisfaction survey indicated that 52 percent of the participants surveyed reported convenience was the aspect of the program that provided them the most value. Ninety-five percent of the customers surveyed agreed the amount of the rebate they received was adequate; 45 percent "strongly agree" and 50 percent "agree." Ninety-eight percent of the customers surveyed indicated they were satisfied with the overall program; 78 percent were "very satisfied" and 20 percent "somewhat satisfied." Almost all of the customers surveyed indicated they were likely to

recommend the program to a friend or family member; 94 percent were "very likely" and 5 percent "somewhat likely."

As a result of the process evaluation, ADM Associates, Inc., provided two recommendations for the program. The first recommendation is to continue researching "existing retailer involvement in the program." Retailer referrals account for between 6 and 13 percent of program participants. Idaho Power will continue to monitor retailer referrals and determine how to best use these trade-allies. The second recommendation is to monitor "customer understanding of program requirements." Anecdotal comments during the customer satisfaction survey indicate some participants may not always understand the purpose of the program or the eligibility requirements. Idaho Power will consider this in its communications and marketing strategy for the program.

Recommendations for improvement include engaging retailers in the marketing process and furthering outreach and education of program objectives. A copy of the report is in *Supplement 2: Evaluation*.

### 2012 Strategies

Idaho Power plans to continue implementing the program and managing the contract with JACO. The media plan for 2012 includes a larger focus on direct-mail as well as newspaper advertisements, bill inserts, Valpak advertisements, and customer newsletters, including the Customer Connection pending space available. Digital media pay-per-click advertisements will be on Google all year. Idaho Power, through Runyon, Saltzman & Einhorn, Inc., (RS&E) will run Yahoo! behavioral target online advertisements. The company will continue promotions at energy efficiency and community outreach events and on the Idaho Power website.

Idaho Power will also evaluate the results of the process evaluation conducted at the end of 2011. In 2012, the program will conduct an impact evaluation.

## **Weatherization Assistance for Qualified Customers**

	2011	2010	
Participation and Savings			
Participants (homes/non-profits)	287	400	
Energy Savings (kWh)	2,783,648	3,741,652	
Demand Reduction (MW)	n/a	n/a	
Program Costs by Funding Source			
Idaho Energy Efficiency Rider	\$0	\$0	
Oregon Energy Efficiency Rider	\$0	\$0	
Idaho Power Funds	\$1,324,415	\$1,321,132	
Total Program Costs—All Sources	\$1,324,415	\$1,321,132	
Program Levelized Costs			
Utility Levelized Cost (\$/kWh)	\$0.029	\$0.027	
Total Resource Benefit/Cost Ratio	\$0.042	\$0.035	
Program Life Benefit/Cost Ratios			
Utility Benefit/Cost Ratio	4.5	59	
Total Resource Benefit/Cost Ratio	2.92		
Program Characteristics			
Program Jurisdiction	Idaho/Oregon		
Program Inception	1989		

## **Description**

The WAQC program provides funding to install cost-effective weatherization measures in qualified owner-occupied and rental homes that are electrically heated. In 2011, qualified households included those with incomes up to 200 percent of the federal poverty level guidelines. Energy efficiency enhancements allow qualified families to maintain a comfortable home environment while saving energy and money otherwise spent on heating, cooling, and lighting. Participants receive energy efficiency education to help save energy in their homes. Funding is also provided for the weatherization of buildings that house non-profit organizations who serve special-needs populations. In compliance with IPUC Order No. 29505, Idaho Power funds the Community Action Partnership (CAP) agencies to administer the WAQC program in its service area.

WAQC is modeled after the US Department of Energy (DOE) Weatherization Program. The DOE program is managed through Health and Human Services offices in Idaho and by the Oregon Housing and Community Services in Oregon. While Idaho Power funds the program, CAP agencies in Idaho Power's service area serve as the administrators of the WAQC program. Federal funds are allocated to the Idaho Department of Health and Welfare and Oregon Housing and Community Services, then to CAP agencies based on US Census data of qualifying household incomes within each CAP agency's geographic area. The CAP agencies oversee local weatherization crews and contractors, providing services and measures that improve energy efficiency of the homes. WAQC allows these state agencies to leverage their federal weatherization dollars and serve more residents by supplementing federal Low Income Home Energy Assistance Program (LIHEAP) weatherization funds.

Energy-saving home measures provided by this program include upgrades to windows, doors, wall insulation, ceiling insulation, floor insulation, infiltration, ducts, water heaters, pipes, furnace tune ups, furnace modification, furnace replacement, and CFLs. Consistent with the State of Idaho Weatherization Assistance Program, WAQC offers several measures that have costs but do not save energy or savings cannot be measured. Included in this category are health and safety, vents, furnace repair, and home energy audits. Health and safety measures are necessary to ensure weatherization activities do not cause unsafe situations in a customer's home or compromise a household's existing indoor air quality. Other non-energy savings measures are allowed under this program to help facilitate the effective performance of those measures yielding energy savings.

Energy-saving measures provided to non-profit buildings under this program include upgrades to windows, doors, wall insulation, ceiling insulation, floor insulation, infiltration, ducts, water heaters, pipes, furnace tune-ups, furnace modification, furnace replacement, and CFLs. Non-profit building measures that have costs but do not save energy or savings cannot be measured, are health and safety, vents, furnace repair, and home energy audits.

For more details on the WAQC program, view the most recent regulatory report, *Weatherization Assistance for Qualified Customers 2010 Annual Report*, April 1, 2011, located in *Supplement 2: Evaluation*.

### 2011 Activities

During 2011, CAP agencies weatherized 269 electrically heated homes in Idaho and 14 in Oregon, totaling 283 weatherized homes. Annual energy savings were 2,465 MWh for Idaho and 135 MWh for Oregon. There were four Idaho buildings housing non-profit organizations that serve special-needs populations weatherized in 2011 saving an additional 160 MWh.

#### Cost-Effectiveness

The cost-effectiveness for the WAQC program is determined using an energy-savings audit program known as Energy Audit 4 (EA4). The EA4 audit program is used by state weatherization programs and is approved for use by the DOE. An auditor uses the EA4 to conduct the initial audit of a potential home. The EA4 compares the efficiency of measures prior to weatherization to the efficiency after the proposed improvement. The output of the EA4 savings-to-investment ratio (SIR) is analogous to a B/C ratio. If the EA4 computes a SIR of 1.0 or higher, where the energy-savings benefits of the measures outweigh the cost of the project, the CAP agency is authorized to complete the proposed measures. In addition to the individual measure SIR, the entire home weatherization job is required to show a SIR of 1.0 or higher. In some cases, the SIR accounts for measures that provide no actual savings, but are provided for either the health or safety of the customer or are required to make the other measures with savings more effective. Cost-effectiveness details are located in *Supplement 1: Cost-Effectiveness*.

## **Customer Satisfaction and Evaluations**

New in 2011, Idaho Power hired independent third-party verification companies to randomly check weatherization jobs submitted for payment by the program. These QA inspectors verify installed measures in homes of participating customers as well as discuss the program with these customers. Home verifiers visited 24 homes for feedback about the program. When asked how much customers learned about saving electricity, 13 answered that they learned "a lot" or "some." When asked about how many ways they tried to save electricity, 17 responded "a lot" or "some." Eight customers

commented that they noticed a difference in the comfort of their home and that their bills had gone down and they had saved money. Additional home verifications are in progress.

The Idaho Power program specialist participates in the Idaho state peer review process, which involves representatives from the CAP agencies, Community Action Partnership Association of Idaho, Inc. (CAPAI), and the Idaho State Department of Health and Welfare reviewing homes weatherized by each of the CAP agencies. Results show that all CAP agency weatherization departments are weatherizing in accordance with federal guidelines.

Additionally, the DOE audits the state agencies each year. The DOE audits include field work as well as paperwork and billing audits and show that the Idaho state weatherization assistance program is in compliance with DOE standards.

## 2012 Strategies

Idaho Power will continue program funding and participate in the review of WAQC. The company is involved with the State of Idaho's Policy Advisory Council that serves as an oversight group for weatherization activities in Idaho. Through this forum, Idaho Power participates in the weatherization policy for the State of Idaho. The council will continue to review state grant applications.

On March 19 and 20, Idaho Power, along with Avista Utilities, Rocky Mountain Power Company, and other interested parties will participate in a public workshop conducted by the IPUC. Idaho Power, Avista Utilities, and Rocky Mountain Power Company offer low-income weatherization programs and energy conservation education programs. Idaho Power specifically offers the WAQC and the Easy Savings® programs. In recent rate cases in front of the IPUC, questions have surfaced about how to best determine each utility's appropriate level of program funding. In particular, concerns arose about how such programs are to be accurately assessed for cost-effectiveness and overall customer need. The workshops will be conducted under IPUC Case No. GNR-E-12-01 and will explore these issues.

## **Weatherization Solutions for Eligible Customers**

	2011	2010	
Participation and Savings			
Participants (homes)	117	47	
Energy Savings (kWh)	1,141,194	313,309	
Demand Reduction (MW)	n/a	n/a	
Program Costs by Funding Source			
Idaho Energy Efficiency Rider	\$774,254	\$216,202	
Oregon Energy Efficiency Rider	\$(2,306) <sup>a</sup>	\$2,306	
Idaho Power Funds	\$16,200	\$9,917	
Total Program Costs—All Sources	\$788,148	\$228,425	
Program Levelized Costs			
Utility Levelized Cost (\$/kWh)	\$0.042	\$0.056	
Total Resource Benefit/Cost Ratio	\$0.042	\$0.056	
Program Life Benefit/Cost Ratios			
Utility Benefit/Cost Ratio	2.25		
Total Resource Benefit/Cost Ratio	2.25		
Program Characteristics			
Program Jurisdiction	Idaho		
Program Inception	200	)8	

<sup>&</sup>lt;sup>a</sup> Reclassify 2010 Oregon Rider balance of \$2,306 to the Idaho Rider.

## **Description**

Weatherization Solutions for Eligible Customers is an energy efficiency program designed to serve Idaho Power residential customers who are slightly above poverty level and, therefore, do not financially qualify for the company's larger weatherization program, WAQC. The program measures and methods of delivery mirror WAQC. The installation of energy efficiency measures and repairs are allowed as long as the improvements have a SIR of 1.0 or higher or ensure savings due to the interaction between measures. The amount spent on each home is limited to an annual average per home. Homes considered for this program are electrically heated and either owned or rented. If rented, the landlord's permission is needed, backed with an agreement of not increasing the unit's rent for a minimum of two years.

Idaho customers eligible for this program earn income just above the federal poverty level, which is adjusted annually. They typically do not have expendable income to participate in other residential energy efficiency programs and live in similar housing as WAQC customers.

### 2011 Activities

The 2011 program ended the year with 117 weatherization jobs completed. Qualifying customers for the year earned an income between 175 percent and 250 percent of the federal poverty level. The program served customers in Idaho Power's Southern, Western, and Eastern service area.

By year-end, Home Energy Management, LLC (HEM LLC) weatherized 39 electrically heated homes of eligible Idaho Power customers in Idaho Power's Southern region at no cost to the customer. Energy savings achieved were 441,976 kWh per year, with an average home saving 11,333 kWh per

year for the life of the measures installed. Total costs were \$244,232, with an average job production cost of \$5,693.

Energy Zone, LLC weatherized 73 electrically heated homes of eligible Idaho Power customers in the Western region by year-end at no cost to the customer. Energy savings achieved were 663,018 kWh per year with an average home saving 9,082 kWh per year for the life of the measures installed. Total costs were \$492,453, with an average job production cost of \$6,133.

By year-end, savings Around Power weatherized five electrically heated homes of eligible Idaho Power customers in the Eastern region at no cost to the customers. Energy savings achieved were 36,199 kWh per year with an average home saving 7,240 kWh per year for the life of the measures installed. Total costs were \$26,597, with an average job production cost of \$4,836.

Marketing of the program was done several ways in 2011. Door hangers were developed by Idaho Power and distributed by contractors. All three contractors advertised the program in their regions with program flyers distributed by contractors throughout mobile home parks and at specific property-management Realtor offices. Flyers were also left with previous customers, who spread information about the program to families and friends who might qualify. Word of mouth continued to be an effective marketing tool for the program in 2011. Several articles about the program were featured in various local publications.

### Cost-Effectiveness

Like the WAQC program, the Weatherization Solutions for Eligible Customers program uses the energy audit software program EA4. During an initial audit of a potential home, the auditor completes an energy-savings audit using the EA4 estimate. The EA4 audit program is used by the Idaho Weatherization Assistance Program and approved for use by the DOE. If the EA4 computes a SIR of 1.0 or higher, the contractors are authorized to include that measure. In addition to the individual measure SIR, the entire home weatherization job project is required to show a SIR of 1.0 or higher. In addition to the calculation of the SIR done by the contractors, Idaho Power also assesses cost-effectiveness, calculating the UC and TRC ratios of each measure, which includes windows, doors, insulation, venting, infiltration, ducts, health and safety measures, water heater, pipes, furnace repair, furnace replacement, and CFL installation. The cost-effectiveness testing by measure is consistent with standard methods used in other programs. As with other programs, Idaho Power also calculates the UC, TRC, and RIM cost-effectiveness ratios for this program. Actual savings and measure costs submitted by the contractors are used in place of deemed measure values to asses cost-effectiveness. The actual average annual savings estimates are considered more accurate than a deemed savings because of the number of inputs applied in the EA4 data analysis. The final savings numbers per measure and a complete list of cost-effectiveness assumptions can be reviewed in Supplement 1: Cost-Effectiveness.

Table 6 shows the program's measures, instances installed, kWh savings, and the cost of measures.

Table 6. 2011 Weatherization Solutions for Eligible Customers measure breakdown

Measure	Instances Installed	kWh Savings	Cost of Measures
Audit invest	117		\$16,790
Ceiling insulation	80	130,512	\$82,091
CFL install	49	8,189	\$796
Doors	42	57,462	\$43,668
Ducts	40	252,231	\$40,560
Floor insulation	60	125,405	\$98,702
Furnace repair	18		\$5,568
Furnace replacement	48	274,606	\$209,501
Furnace tune	1	3,967	\$454
Health and safety	36		\$11,865
Infiltration	79	116,307	\$79,587
Other	9		\$5,007
Pipes	41	3,734	\$7,052
Refrigerator replacement	2	2,090	\$1,502
Venting	20		\$2,506
Wall insulation	17	51,077	\$14,339
Water heater	44	9,060	\$1,226
Windows	45	106,553	\$72,681
Total		1,141,194	\$693,895

## **Customer Satisfaction and Evaluations**

In 2011, the program contractors conducted a customer satisfaction survey. Questionnaires were given to the customers after the contractor completed the job. Of the 117 participants, 55 customers provided written feedback about the work done in their home and about energy conservation in their home. Each response complimented the work crew and expressed thanks for the program. Nine of the 55 respondents commented that they could not have increased the efficiency of their home for financial reasons without the program. Others commented that they were more comfortable and looking forward to lower energy bills.

Idaho Power hired independent third-party verification companies to randomly check weatherization jobs submitted for payment by the program. These QA inspectors verify installed measures in homes of participating customers and discuss the program with these customers. Of the 117 jobs completed in 2011, home verifiers visited 15 homes for feedback about the program. When these 15 customers were asked how much they learned about saving electricity during weatherization, nine answered from the choices offered that they learned "a lot" or "some." When asked about how many ways they tried to save electricity in their home, 13 responded "a lot" or "some." Additional home verifications are in process.

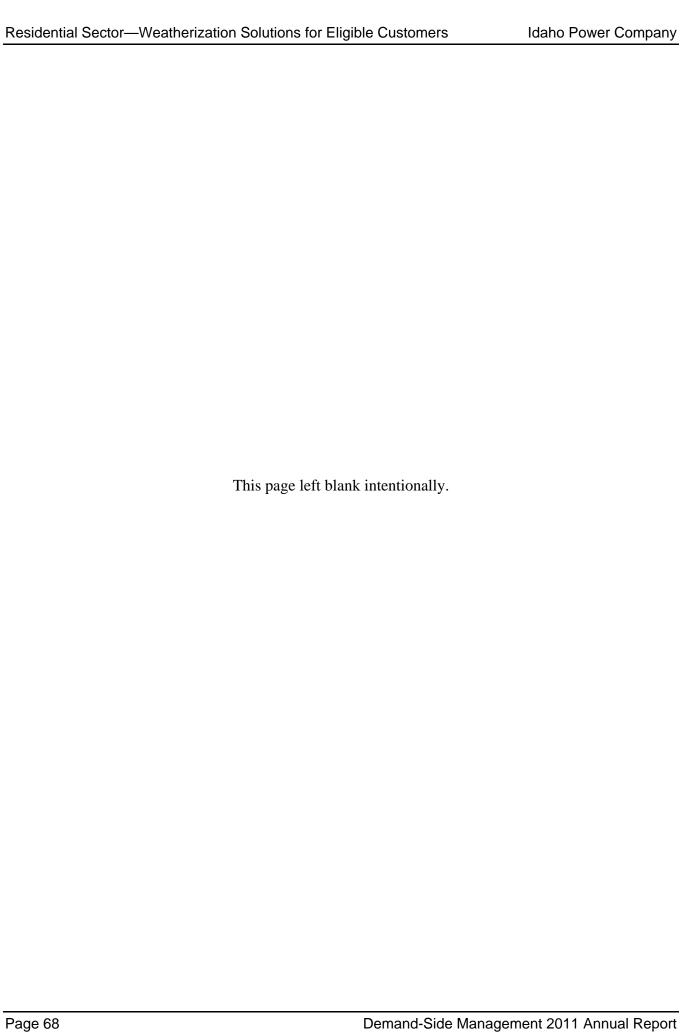
## 2012 Strategies

The program will continue to be offered to Idaho Power customers in the Southern, Eastern, and Western regions in 2012. The Weatherization Solutions for Eligible Customers anticipates weatherizing 125 homes through the program in 2012.

HEM LLC is under contract to weatherize approximately 25 homes in Idaho Power's Southern region; Energy Zone, LLC is under contract to weatherize approximately 50 homes in Idaho Power's Western region; and Savings Around Power is contracted for approximately 25 homes in the Eastern region. Idaho Power will begin expansion of the program into Idaho Power's Capital region and plans on weatherizing approximately 25 homes in that region.

An annual average cost of \$7,200 per home will be used in 2012. Contractors will be paid 10 percent of the production costs per home as an administrative fee. All measures that provide energy savings will meet the minimum SIR when applied through the state-approved energy audit. Each total job will also meet the minimum SIR requirements. Idaho Power anticipates saving an average of 10,400 kWh per weatherized home per year, for a total energy savings of 1,300,000 kWh annually for the life of the measures.

Eligible customers will include Idaho Power customers who heat their homes electrically and earn an income between 175 percent and 250 percent of the federal poverty level. Customers who are either purchasing or renting their homes may be eligible. As in 2011, identification of potential participants will be made through several means. Energy Assistance/LIHEAP applicants at CAP agencies who do not meet WAQC income qualifications are sent denial letters. Program contractors will use this list of denied customers at CAP agencies to market the Weatherization Solutions for Eligible Customers program. Contractors will distribute flyers and door hangers explaining the program and qualifying guidelines to customers heating their homes with electricity.



## COMMERCIAL/INDUSTRIAL SECTOR OVERVIEW

# **Description**

Idaho Power's commercial and industrial sector consists of over 65,000 customers. In 2011, the commercial sector's number of new customers increased by 579, an increase of 0.9 percent. The energy usage of the commercial customers varies from a few kWh each month to several hundred thousand kWh per month.

The industrial customers and special-contract sector are Idaho Power's largest individual energy consumers. There are approximately 117 industrial customers. These customers' can use millions of kWh a month and account for about 23 percent of Idaho Power's system sales.

The Custom Efficiency program represented the highest total savings among commercial and industrial programs in 2011, with a total savings of 67,979 MWh. The Easy Upgrades program saw the highest percentage increase amongst commercial and industrial programs, with annual savings increasing by 8 percent over 2010. Table 7 is a summary of savings and expenses from the three commercial and industrial energy efficiency programs and one demand response program.

# **Programs**

Table 7. 2011 commercial/industrial program summary

			Total	Costs	Savin	gs
Program	Parti	cipants	Utility	Resource	Annual Energy (kWh)	Peak Demand (MW)
Demand Response						
FlexPeak Management	111	sites	\$ 2,057,730	\$2,057,730	n/a	58.8
Total			\$ 2,057,730	\$2,057,730		58.8
Energy Efficiency						
Building Efficiency	63	projects	\$ 1,291,425	\$3,320,015	11,514,641	0.9
Easy Upgrades	1,732	projects	4,719,466	9,519,364	38,723,073	4.4
Custom Efficiency	166	projects	8,783,811	19,830,834	67,979,157	7.8
Total			\$14,794,702	\$32,670,213	118,216,871	13.1

Note: See Appendix 3 for notes on methods and column definitions.

Three major programs targeting different energy efficiency projects are available to commercial/industrial customers in the company's Idaho and Oregon service areas. Easy Upgrades offers a menu of typical retrofit measures with prescriptive incentive amounts for lighting, HVAC, motors, building shell, plug loads, and food-service equipment. These energy-saving measures give customers the option of choosing the best selections for incorporating energy efficiency into their business. The Building Efficiency program is available for new construction projects and large remodels. These projects typically capture lost-opportunity savings. This program continues to be successful, incorporating qualified energy-saving improvements for lighting, cooling, building shell, and energy control options. Participants in the Building Efficiency and Easy Upgrades programs can receive incentives of up to \$100,000 per site per year for approved, completed projects. The Custom Efficiency program offers financial incentives for large commercial and industrial energy users undertaking more complex projects to improve the efficiency of their electrical systems or processes.

Incentive levels are 70 percent of the project cost, or 12 cents per kWh for first-year savings, whichever is less.

Idaho Power continues to offer the Oregon Commercial Audits program to medium and small commercial customers.

FlexPeak Management, a demand response program, is offered to Idaho and Oregon commercial and industrial customers. Idaho Power contracted with EnerNOC, Inc., a third-party aggregator, to reduce peak demand at critical times. EnerNOC, in turn, contracts directly with Idaho Power's commercial and industrial customers to achieve demand reduction.

The decision to discontinue the Holiday Lighting program was made based on an analysis of the program in early 2010. The program ended on December 31, 2010. Some residual payments were made in early 2011 for projects that were completed in late 2010. Two motivating factors in the decision to end the program were the market acceptance of LED decorative lights and a decline in the number of C7 and C9 lights being turned in for the incentive, which impacted the cost-effectiveness of the program. This decision was discussed at EEAG meetings.

The year 2011 proved to be challenging, rewarding, and successful for Idaho Power's commercial and industrial energy efficiency programs. Major changes took place, including implementing a new lighting tool that is used for both Easy Upgrades and Custom Efficiency, incorporating the 2009 IECC building codes into Building Efficiency, and increasing project verifications on all programs. Trade ally meetings were expanded to include training on lighting design and technologies that, when used, will improve energy savings and lighting quality. Additional marketing material included project-specific *Success Stories* and the creation of business-specific energy savings tips. Program specialists spent time reviewing the results of process evaluations that were completed in 2010. Recommendations from these reports were analyzed for each program. Finally, process improvements for processing project applications, including the use of the DSM database, were implemented.

Green Rewind is available to Idaho Power's agricultural, commercial, and industrial customers. The sectors' combined 57 Green Rewind motors achieved a total savings of 192,205 kWh in 2011, with 25 commercial/industrial sector motors contributing 156,141 kWh per year and 32 irrigation sector motors contributing 36,064 kWh per year.

Eighteen service centers in Idaho Power's service area have the necessary equipment and training to perform Green Rewinds. An estimated 1,200 motor rewinds are occurring annually within these service centers. Currently, nine service centers have signed on as Green Motors Practice Group (GMPG) members. The GMPG also will expand the number of service centers participating in the GMPG's Green Motors Initiative, leading to market transformation and additional southern Idaho and eastern Oregon kWh savings.

Motor service centers are paid \$2.00 per horsepower (hp) for each National Electrical Manufacturers Association (NEMA) Standard hp-rated motor between 15 and 5,000 hp for industrial uses and 25 to 5,000 hp for agricultural uses that receives a verified Green Rewind. The GMPG requires all service centers to sign and adhere to the GMPG Annual Member Commitment Quality Assurance agreement. The GMPG follows up with a quality check and QA.

In 2011, Idaho Power entered into the second year of a three-year contract with the IDL in Boise to meet the following objectives:

- Develop climate design resources that are specific to Idaho and could be used to facilitate passive strategies in new commercial and industrial construction projects.
- Educate architects, engineers, and other design and construction professionals about energy
  efficiency topics through an in-firm summer series. This series was expanded in 2011 to include
  firms outside the Treasure Valley.
- Facilitate the Idaho Building Simulation Users' Group to improve the energy efficiency related simulation skills of local design and engineering professionals.
- Support Idaho Power employees in promoting energy efficiency and providing Idaho Power's customers with up-to-date and accurate information regarding energy efficiency technologies and best practices.
- Create a hands-on demonstration and training area for electrical contractors to learn the necessary skills to successfully install and commission daylight harvesting lighting control systems.
- Determine common plug use profiles in office buildings in order to identify strategies to reduce plug loads while also having better data for energy modeling and energy use predictions.
- Review daylight photo-control incentives to improve the quality and performance of installed systems.
- Develop and maintain a measurement equipment tool loan library, including a Web-based equipment tool loan tracking system.

Expanding on some of the prior year's results, the following objectives were added in 2011:

- Stimulate market awareness of energy use in buildings to promote energy efficiency by working with commercial real estate brokers or owners in the development of metrics to be used in the sale or lease of commercial property.
- Promote aggressive energy efficiency on new construction projects in the Idaho Power service area to help the projects achieve the milestones of the American Institute of Architects 2030 Challenge.
- Promote improved energy efficiency in existing convenience stores in the Idaho Power service area.
- Provide measurement and verification services to investigate actual energy savings compared to computer simulation modeled savings or pre- and post-renovation/retrofit conditions.
- Identify new (non-energy related) organizations that may be interested in learning more about energy efficiency and the incentive opportunities available from Idaho Power.
- Demonstrate peak load reduction energy-efficient technologies at the IDL in Boise.
- Provide commercial energy efficiency modeling measurement and verification.

The Idaho Office of Energy Resources (IOER) currently has a K–12 Energy Efficiency Project for public schools in Idaho. The project invests federally provided funds into energy efficiency projects in public school buildings within Idaho Power's service area. In July, Idaho Power entered into an agreement with IOER that provides for the accumulation and reinvestment of energy efficiency

incentive payments from Idaho Power's qualified energy efficiency programs, for K–12 projects. These accumulated incentives will be used for additional cost-effective energy efficiency projects that meet existing Idaho Power program requirements implemented in public school buildings within Idaho Power's service area. The agreement will result in achieving a higher level of energy efficiency in public school buildings than either Idaho Power or IOER could achieve with their individual programs.

Customer satisfaction research by sector includes the Idaho Power quarterly customer relationship surveys that ask questions about customer perceptions related to Idaho Power's energy efficiency programs. Fifty-eight percent of Idaho Power's large commercial and industrial customers surveyed in 2011 for the Burke Customer Relationship survey indicated Idaho Power was meeting or exceeding their needs in offering energy efficiency programs. Fifty-four percent of survey respondents indicated Idaho Power was meeting or exceeding their needs with information on how to save energy or reduce their bill. Sixty-eight percent of respondents indicated Idaho Power was meeting or exceeding their needs with encouraging energy efficiency with its customers. Overall, 78 percent of the large commercial and industrial survey respondents indicated they have participated in at least one Idaho Power energy efficiency program. Of the large commercial and industrial survey respondents who have participated in at least one Idaho Power energy efficiency program, 98 percent are "very" or "somewhat" satisfied with the program.

The results from surveying Idaho Power's small business customers indicated that 40 percent of these customers said Idaho Power was meeting or exceeding their needs in offering energy efficiency programs. Forty-four percent of survey respondents indicated Idaho Power was meeting or exceeding their needs with information on how to save energy or reduce their bill. Fifty-three percent of respondents indicated Idaho Power was meeting or exceeding their needs with encouraging energy efficiency with its customers. Overall, 17 percent of the small business survey respondents indicated they have participated in at least one Idaho Power energy efficiency program. Of small business survey respondents who have participated in at least one Idaho Power energy efficiency program, 72 percent are "very" or "somewhat" satisfied with the program.

In 2012, Idaho Power will research new measures for programs, address program impacts due to the new lighting standards taking effect in July 2012, continue to educate customers and trade allies on lighting technologies and applications, and continue successful industrial training sessions coordinated with NEEA. Additionally, the company will analyze ways to improve Idaho Power programs based on customer and trade ally feedback and any third-party evaluations. Idaho Power plans to conduct a non-participant survey in 2012.

# **Building Efficiency**

	2011	2010	
Participation and Savings			
Participants (projects)	63	70	
Energy Savings (kWh)	11,514,641	10,819,598	
Demand Reduction (MW)	0.9	0.9	
Program Costs by Funding Source			
Idaho Energy Efficiency Rider	\$1,277,422	\$1,466,179	
Oregon Energy Efficiency Rider	\$14,003	\$43,422	
Idaho Power Funds	\$0	\$81	
Total Program Costs—All Sources	\$1,291,425	\$1,509,682	
Program Levelized Costs			
Utility Levelized Cost (\$/kWh)	\$0.010	\$0.016	
Total Resource Benefit/Cost Ratio	\$0.026	\$0.035	
Program Life Benefit/Cost Ratios			
Utility Benefit/Cost Ratio	5.0	03	
Total Resource Benefit/Cost Ratio	2.66		
Program Characteristics			
Program Jurisdiction	Idaho/Oregon		
Program Inception	2004		

## **Description**

The Building Efficiency program enables customers in Idaho Power's service area to apply energy-efficient design features and technologies that would otherwise be lost opportunities for savings to their projects. The program offers a menu of measures and incentives for lighting, cooling, building shell, and control-efficiency options. Customers involved in the construction of new buildings or construction projects with significant additions, remodels, or expansions can receive incentives up to \$100,000. Commercial and industrial customers taking service under, or who will take service under, Schedule 7 (Small General Service), Schedule 9 (Large General Service), Schedule 19 (Large Power Service), or special-contract customers are eligible to participate. Program marketing is targeted towards architects, engineers, and other design professionals.

Fourteen measures are offered through this program and include interior light load reduction, exterior light load reduction, daylight photo controls, occupancy sensors, high-efficiency exit signs, premium efficiency HVAC units, additional HVAC unit efficiency bonus, efficient chillers, air-side economizers, reflective roof treatment, high-performance windows, energy management control system, demand-controlled ventilation, and variable-speed drives.

Idaho Power is a primary sponsor of the IDL in Boise, which provides technical assistance and training seminars to local architects, engineers, and designers. Much of this activity is coordinated and supported through NEEA's BetterBricks® program. The Building Efficiency program sponsors the biannual BetterBricks awards held in October in Boise. The BetterBricks awards recognize leaders whose work supports the design and operations of high-performance buildings and their commitment to energy efficiency. The Building Efficiency program also sponsors technical lunch-and-learn sessions geared to

educate design professionals and the Idaho Building Simulation Users' Group. The Building Simulation Users' Group is designed to improve the energy efficiency-related simulation skills of local design and engineering professionals.

## 2011 Activities

The Building Efficiency program completed 63 projects, resulting in 11,514,641 kWh in annual energy savings in Idaho. Overall, the program increased kWh savings 6.42 percent over 2010.

The Building Efficiency program was modified in 2011. The 2009 IECC was implemented in the State of Idaho effective January 1, 2011. The impact of the 2009 IECC on program measure savings and incentives were researched and reviewed in 2010. The existing measures were evaluated along with the current participation levels for each measure. Customer and CR feedback indicated the need to simplify incentive payment calculations. The 2011 Building Efficiency program has been modified to reflect the impact of these recommendations and implementation of the 2009 IECC with simplified incentive calculations and increased energy efficiency requirements for qualification in the program. Program changes include adjusting efficiency requirements, incentive levels and their related energy savings where applicable to code changes, adding two new measures, and removing two unused measures.

Efficient chillers and exterior light load reduction measures were added to the program in 2011. Efficient complex cooling systems and window shading were removed from the Building Efficiency program due to their low participation level. The Building Efficiency program has remained consistent, except for these few changes. New construction and major renovation project design and construction life is much longer than small retrofits and requires consistency in program measures and operation. Program consistency reduces confusion for customers with long construction and project timelines.

Technical training and assistance continue to be important in educating design professionals in energy efficiency design for new construction and major renovations. Influencing a project early in the design phase will have the most impact and least amount of lost opportunity. Twenty technical training lunches were completed in 2011, with 383 attendees, including architects, engineers, interior designers, and project managers. Technical trainings were expanded to include Boise, Twin Falls, Pocatello, and Ketchum. Topics included Integrated Design Principals, Energy Benchmarking and Goal Setting, Daylight In Buildings: Schematic Design Methods, Daylighting: Getting the Details Right, HVAC 101 and 2009 IECC, Measurement and Verification/IPC Tool Loan, Hybrid Cooling Strategies, Right Sizing of HVAC Systems, Demand Control Ventilation, and Building Performance Modeling. The Building Efficiency program, in conjunction with the Custom Efficiency program, sponsored nine training sessions for the Building Simulations User Group through the IDL in Boise. Additionally, Idaho Power is a sponsor of the American Institute of Architects 2030 Challenge being held in Boise. The 2030 Challenge is a ten-session learning course designed to educate architects, engineers, and other design professionals on integrated design practices in new construction. Approximately 40 design professionals are enrolled in the program. The 10 sessions started in fall 2011 and will conclude in spring 2012.

The Cadmus Group, Inc., was contracted in 2010 to provide a process evaluation of the Building Efficiency program. This evaluation included a program data review, program logic model, internal customer survey evaluation, industry best practices comparison, and conclusions and recommendations. The final report was received in February 2011 and noted that Idaho Power, as a primary sponsor of the IDL in Boise, provided free technical assistance and training to local architects and designers through the Building Efficiency program. The report also noted that this program increased in participation by 20 percent in the last year. Recommendations for program improvement

included the need to update program collateral materials and conduct additional market research with program participants and non-participants. Idaho Power has analyzed all recommendations and addressed them accordingly. The program application form was updated in 2011 to enhance its ease of use for Idaho Power customers; it is located on the Building Efficiency home page and is in Excel format. The Building Efficiency home page was updated and links were corrected where they were no longer active. Checking links and updating the website will continue to occur on a regular basis. A link to energy efficiency *Success Stories* was added, with three specific to new construction. The data fields on the application were reviewed in conjunction with the database to make sure all critical data was being captured appropriately.

### Cost-Effectiveness

For 2011, Idaho Power reviewed the savings and cost assumptions for the prescriptive measures offered in the program. Prior to making any program changes, Idaho Power used engineering estimates and research to determine if the changes were cost effective. The changes made in 2011 included providing different incentives to interior light load reduction when the installed wattage is a certain percentage below code, adding exterior light load reduction incentives, changing the units for daylight photo controls from ft<sup>2</sup> to per sensor, and changing the requirements and incentive levels for efficient HVAC units. The actual savings reported by the program are calculated for each project.

To calculate energy savings, the Building Efficiency program verifies the incremental efficiency of each measure over a code or standard-practice installation baseline. Savings are calculated through two main methods. When available, savings are calculated using actual measurement parameters for both the measure at code and at efficiency. The other method for calculating savings in the program is based on industry standard assumptions when precise measurements are unavailable. Since Building Efficiency is a prescriptive program and the measures are being installed in new buildings, there are no baselines of previous measureable kWh usage in the building. Therefore, industry standard assumptions from the IECC are used to calculate the savings achieved over how the building would have used energy absent of efficiency measures.

Building Efficiency incentives are based on a variety of methods depending on the measure type. Incentives are calculated mainly through a dollar-per-unit equation using square footage, tonnage, operating hours, or kW reduction as the unit being used. Complete measure level details for cost-effectiveness can be found in *Supplement 1: Cost-Effectiveness*.

### **Customer Satisfaction and Evaluations**

Following up on a recommendation from The Cadmus Group, Inc., report, a random installation verification procedure was implemented to include 10 percent of Building Efficiency projects. IDL in Boise completed an Incentive Verification Procedure report in 2011 for the Building Efficiency program. The project verification protocol was implemented into the Building Efficiency program in October 2011. Six of the 63 completed projects were field verified, which encompasses approximately 10 percent of the total completed projects in the program.

## 2012 Strategies

In 2012, Idaho Power will evaluate program measures and implement program changes, which will begin in January 2013.

Idaho Power is working with NEEA in support of an existing building renewal program for commercial buildings. NEEA is in the process of securing four demonstration projects, potentially with one located in Idaho Power's service area.

The Building Efficiency program will continue to sponsor technical training through the IDL in Boise. Technical trainings will continue to address the energy efficiency education needs of design professionals in the Boise, Pocatello, Twin Falls, and Sun Valley markets.

The Building Efficiency program will continue to perform random post-project verifications on a minimum of 10 percent of completed projects.

# **Custom Efficiency**

	2011	2010	
Participation and Savings			
Participants (projects)	166	223	
Energy Savings (kWh) <sup>a</sup>	67,979,157	71,580,075	
Demand Reduction (MW)	7.8	9.5	
Program Costs by Funding Source			
Idaho Energy Efficiency Rider	\$413,959	\$8,046,168	
Oregon Energy Efficiency Rider	\$1,385,613	\$717,132	
Idaho Power Funds	\$6,984,239 <sup>b</sup>	\$14,825	
Total Program Costs—All Sources	\$8,783,811	\$8,778,125	
Program Levelized Costs			
Utility Levelized Cost (\$/kWh)	\$0.012	\$0.014	
Total Resource Benefit/Cost Ratio	\$0.026	\$0.027	
Program Life Benefit/Cost Ratios			
Utility Benefit/Cost Ratio	7.27		
Total Resource Benefit/Cost Ratio	3.09		
Program Characteristics			
Program Jurisdiction	Idaho/Oregon		
Program Inception	2003		

<sup>&</sup>lt;sup>a</sup> Includes kWh savings from Green Rewind.

## **Description**

The Custom Efficiency program targets energy savings by implementing customized energy efficiency projects at customers' sites. The program is an opportunity for commercial and industrial customers in Idaho and Oregon to lower their electrical usage and receive a financial incentive by completing energy efficiency projects. Incentives reduce customers' payback periods for projects that might not be completed otherwise. Program offerings include training and education regarding energy efficiency, energy auditing services for project identification and evaluation, and financial incentives for project implementation.

Interested customers submit applications to Idaho Power for potential projects that have been identified by a third-party consultant, Idaho Power, or by the customer as applicable to the facility. Idaho Power engineers work with customers and vendors to gather sufficient information to support the energy-savings calculations.

Project implementation begins after Idaho Power reviews and approves an application, followed by the finalization of the terms and conditions of the applicant's and Idaho Power's obligations. In some cases, large, complex projects may take as long as two years to complete. Often, Idaho Power conducts follow-up or post-inspection validation via third-party engineering firms. Incentive levels for the Custom Efficiency program remained at 70 percent of the project cost, or 12 cents per kWh first-year savings, whichever is less.

<sup>&</sup>lt;sup>b</sup> Capitalized incentive payments per IPUC Order No. 32245.

### 2011 Activities

Custom Efficiency experienced another successful year in 2011. A total of 166 projects were completed in 2011 by 112 companies, including 13 Oregon projects from seven different companies. Program energy savings decreased in 2011 by 5 percent over the prior year, from 71,580 MWh to 67,979 MWh. These numbers include Green Rewind motors. The decrease in program energy savings was a result of maturation of the program, as 86 percent of the large power service customers have submitted an application for a project through 2011. Additionally, Idaho Power's Easy Upgrades program expanded some lighting measures that qualified for incentives. With the expanded measures, some projects that would have historically been processed through Custom Efficiency were processed through Easy Upgrades. Program staff are anticipating another busy year in 2012, as there are approximately 158 applications for projects.

Key components in facilitating customer implementation of energy efficiency projects are facility energy auditing, customer technical training, and education services. Because the link between energy audits and the completion of projects is historically significant, Idaho Power brought on two new scoping auditors in 2011. Selection of engineering firms is based on the firm's expertise in all major equipment areas and their ability to provide resources for customers throughout Idaho Power's service area.

Technical training and education continue to be important in helping Idaho Power industrial customers identify where they may have energy efficiency opportunities within their facilities. A total of 11 technical training classes were completed in 2011. Topics included compressed air, chilled water systems, pumping systems, variable frequency drives (VFD), and refrigeration. The level of attendance at these classes remains high with a total of 228 customers attending the workshops.

As stated in the sector overview, Green Rewind is available to Idaho Power's Custom Efficiency customers. This measure maintains the motor's original efficiency and ensures an efficient use of electricity to run the motor. There were 25 Green Rewind motors in the commercial/industrial sector in 2011, contributing 156,141 kWh in annual savings.

The Custom Efficiency program has achieved a high service area penetration rate. As stated above, through 2011, approximately 86 percent of the large power service customers submitted applications for a project. Idaho Power engineers met with another 11 percent of the customers to discuss energy efficiency programs and opportunities within customer facilities. In summary, 97 percent of large power service customers submitted projects to, or met with, Idaho Power.

Idaho Power contracted with The Cadmus Group, Inc., in 2010 to provide a process evaluation of the program. The primary goals of the process evaluation are to inform Idaho Power about how individual programs are operating and to help better plan, integrate, implement, and evaluate its energy efficiency programs. This assessment of the Custom Efficiency program was based on interviews with program staff, a review of program materials, and a best practice comparison of similar, exemplary programs. The final report was received in February 2011 and noted that "In many ways, the Custom Efficiency program exemplifies a quality efficiency program compared to similar efforts across the country."

The following are examples of actions implemented in the program as a result of recommendations made by the evaluation. A new database for entering and tracking projects was initiated, which improved standardization and consistency between projects and will assist in evaluation. A program manual has been developed and serves as a living document capturing program intent, processes, requirements, inspection criteria, and other details required to operate the program. All program

literature has been or is currently being reviewed to capture any new program details and ensure consistency and clarity between the documents.

Table 8. 2011 Custom Efficiency annual energy savings by primary project measure

Program Summary By Measure	Number of projects	kWh saved
Lighting	118	32,332,833
Refrigeration	16	16,568,238
HVAC	3	8,083,029
Other	3	2,210,374
Fan	8	2,167,372
Commissioning and Controls	8	2,167,106
Variable Frequency Drive	3	1,315,921
Uninterruptible Power Supply	1	1,052,674
Pump	3	981,424
Motors	2	512,289
Compressed Air	1	431,756
Green Rewind	25	156,141
Total	166 <sup>a</sup>	67,979,157

<sup>&</sup>lt;sup>a</sup> Does not include Green Rewind.

### Cost-Effectiveness

All projects submitted through the Custom Efficiency program must meet cost-effectiveness requirements, which include TRC, UC, and PCT tests from a project perspective. The program requires all costs related to the energy efficiency implementation and energy-savings calculations be gathered and submitted with the program application.

To be consistent with Easy Upgrades, Custom Efficiency began requiring customers to complete the lighting tool for any lighting projects. Payback is calculated with and without incentives, along with the estimated dollar savings for installing energy efficiency measures. As the projects progress, any changes to the project are used to recalculate energy savings, incentives, and cost-effectiveness before the incentives are paid to the participant. To aid in gathering or verifying the data required to conduct cost-effectiveness and energy-savings calculations, third-party engineering firms are sometimes used via a scoping audit, detailed audit, or engineering measurement and verification services.

In 2011, Idaho Power contracted with ADM Associates, Inc., to conduct an impact evaluation to review the engineering calculations used to determine the project savings Idaho Power claimed in 2010. As a result, ADM Associates, Inc., provided some recommendations on how to calculate savings for certain measures. Idaho Power is reviewing these calculations and may implement these recommendations in 2012. In the meantime, the program engineers have adjusted the calculations for fast-acting door refrigeration energy savings to follow a recommendation from ADM Associates, Inc. Details for cost-effectiveness are in *Supplement 1: Cost-Effectiveness*.

### **Customer Satisfaction and Evaluations**

Each project in the Custom Efficiency program is thoroughly reviewed to ensure energy savings are achieved. Idaho Power engineering staff or a third-party consultant calculates the energy savings.

The verification process requires end-use measure information, project photographs, and project costs be collected.

On many projects, and especially larger and more complex projects, Idaho Power or a third-party consultant conducts on-site power monitoring and data collection before and after project implementation. The measurement and verification process ensures achievement of projected energy savings. Verifying applicants' information confirms that demand reduction and energy savings are obtained and within program guidelines. If changes in scope take place in a project, a recalculation of energy savings and incentive amounts occurs based on the actual installed equipment and performance.

The measurement and verification reports provided to Idaho Power include verification of energy savings, costs, estimates of measure life, and any final recommendations to ensure the persistence of savings.

Because the customers who participate in the Custom Efficiency program are some of Idaho Power's largest customers, program managers or major CRs solicit customer satisfaction feedback for the Custom Efficiency program. This is authenticated in customers' willingness to participate in the Custom Efficiency program's posting of customers' *Success Stories* on the Idaho Power website. At the end of 2011, six additional *Success Stories* describing Custom Efficiency projects were posted on the company's website. An example of a success story posted in 2011 refers to a lighting project completed at Jefferson Place in Boise early in the year. Idaho Power provided Jefferson Place a \$30,096 incentive for lighting upgrades that reduce the facility's costs and are expected to save about \$13,000 in utility costs each year. The estimated savings for the project was 250,802 kWh/year. The owner stated, "Without that incentive, we wouldn't have done [the project]." Copies of the 2011 *Success Stories* are provided in *Summary 2: Evaluation*.

In 2011, Idaho Power contracted with ADM Associates, Inc., to conduct a comprehensive impact evaluation of the 2010 Custom Efficiency program results. The sampling plan included 75 project desk reviews and 35 site verifications stratified by lighting and non-lighting projects. Each stratum was further separated into seven bins based on other factors, including kWh savings. This methodology provided a high verification rate of  $\pm 10$  percent precision at the 90-percent confidence level.

Not including the savings attributed to Green Rewind, the results indicate a program level ex-post verified annual kWh savings of 67,207,525 kWh for 2010 compared to ex-ante expected savings of 71,524,949 annual kWh savings and reduction of 12,863 kW, resulting in a program-level verified savings realization rate of 94.0 percent. Lighting and non-lighting projects accounted for 51 and 49 percent of the total verified kWh savings, respectfully. A copy of the report is in *Supplement 2: Evaluation*.

## 2012 Strategies

In 2012, Idaho Power plans to continue expanding the Custom Efficiency program through a number of activities. These activities will include direct marketing of the Custom Efficiency program by Idaho Power major CRs to inform the customers of the Idaho Power energy efficiency programs available and potential ways the customer can reduce energy costs. Idaho Power will continue to provide site visits and energy audits for project identification; technical training for customers; funding for detailed energy audits for larger, complex projects; and delivery of NEEA-sponsored energy improvement practices to customers. Additionally, program staff will engage with the Center for Advanced Energy Studies (CAES) Energy Efficiency Research Initiative (CEERI). The CEERI is recognized now as an institute. At CEERI's new Industrial Assessment Center, Idaho Power staff will

assist CEERI as needed as they start their work with small- and medium-sized manufacturing companies.

# **Easy Upgrades**

	2011	2010	
Participation and Savings			
Participants (projects)	1,732	1,535	
Energy Savings (kWh)	38,723,073	35,824,463	
Demand Reduction (MW)	4.4	7.8	
Program Costs by Funding Source			
Idaho Energy Efficiency Rider	\$4,598,019	\$3,862,653	
Oregon Energy Efficiency Rider	\$121,447	\$111,757	
Idaho Power Funds	\$0	\$0	
Total Program Costs—All Sources	\$4,719,466	\$3,974,410	
Program Levelized Costs			
Utility Levelized Cost (\$/kWh)	\$0.011	\$0.013	
Total Resource Benefit/Cost Ratio	\$0.022	\$0.024	
Program Life Benefit/Cost Ratios			
Utility Benefit/Cost Ratio	7.41		
Total Resource Benefit/Cost Ratio	2.97		
Program Characteristics			
Program Jurisdiction	Idaho/Oregon		
Program Inception	2006		

## **Description**

The Easy Upgrades program encourages commercial and industrial customers in Idaho and Oregon to implement energy efficiency retrofits by offering incentives up to \$100,000 per site, per year. Eligible measures cover a variety of energy-saving opportunities in lighting, HVAC, motors, building shell, plug loads, and food service equipment. Easy Upgrades is one of the company's largest and most complex programs. A complete listing of the measures offered through the Easy Upgrades program is included in *Supplement 1: Cost-Effectiveness*.

Idaho Power commercial or industrial customers taking service under Rate Schedule 7 (Small General Service), Rate Schedule 9 (Large General Service), Rate Schedule 19 (Large Power Service), and special-contract customers are eligible. Potential participants first assess their energy saving opportunities by talking with their equipment supplier, contractor, or Idaho Power CR. For projects with expected incentive payments of more than \$1,000 or that contain variable speed drives, or non-standard lighting measures, applicants must submit a Pre-Approval Application prior to initiating the project. In those cases, the customer or contractor completes the Pre-Approval Application and submits it with required documentation. After Idaho Power's review and acceptance, the customer may install the pre-approved equipment. For projects not requiring pre-approval, customers may elect to skip the Pre-Approval Application process and submit their Payment Application and accompanying documentation. Under the Easy Upgrades program, incentive payments may be made to the customer's contractor or supplier; however, the customer must specifically assign the payment to the third party as part of the Payment Application process.

### 2011 Activities

Easy Upgrades continued to see strong program participation in 2011. The number of completed projects increased by 13 percent over 2011, and energy savings increased by 8 percent.

Several changes to the Easy Upgrades program were implemented in 2011. These program changes were driven from feedback received from trade allies, input from Evergreen Consulting Group, LLC, regional trade organizations, Idaho Power's CRs, and most importantly, Idaho Power customers.

A process evaluation conducted in 2010 by The Cadmus Group, Inc., validated several program changes being implemented by program management, as well as identified some recommendations being investigated. Program staff have received positive comments from trade allies regarding these program changes, as well as positive feedback from customers that participated in the program. Other recommendations from the process evaluation included adding resources to process the applications; streamlining application processing; increasing contractor training; improving program documentation, data tracking, QA, and verifications; marketing; and obtaining customer feedback. Several recommendations were implemented, in part, as a result of the evaluation, including adding additional resources to process applications and to conduct project verifications, increasing the number of pre- and post-project verifications, requiring pre-applications for projects over \$1,000, increasing training for trade allies and contractors, using a new database for program tracking, updating program material, and conducting a participant survey. Recommendations being investigated for 2012 include additional program documentation, Web-based application forms, and marketing research, including non-participant surveys.

Program changes in 2011 included a new lighting tool that provides program staff with more detailed project information and allows for additional cost-effective lighting measures to be included in lighting projects. The lighting tool allowed customer and contractors to submit projects electronically. Submitting the projects electronically benefited contractors, as well as increased program staff efficiency in processing applications. The lighting tool was required on all lighting projects. Easy Upgrades used a new database, which stored greater project details and made the project information more accessible.

To participate in the lighting portion of the program, trade allies and contractors are now required to sign an MOU. The MOU outlines Idaho Power's expectations of program participants. As recommended by the process evaluation, Easy Upgrades increased the number of resources dedicated to processing applications to meet program growth and increased QA and project verifications. A contract employee was hired in late 2010 to perform pre- and post-project inspections. A second contract employee was hired to review project applications. The reviewer ensured that each project had sufficient documentation and the project met program requirements.

Idaho Power continued to contract with Evergreen Consulting Group, LLC to provide ongoing lighting specialist expertise, project support, and trade ally training. Greater project detail was required in 2011, and applications and forms were updated to provide clarity on these program requirements.

Several measures were changed in 2011. The window-shade film measure was removed from the building shell category in 2011 based on a cost-effective analysis. Insulated and high-speed automatic door measures were removed from Easy Upgrades and moved to the Custom Efficiency program. The incentives for grocery refrigeration anti-sweat heat controls, Electronically Commutated Motor (ECM) case fan motors, and LED display case lighting were increased. Air-cooled multiplex and evaporative-cooled multiplex systems were removed based on a cost-effective analysis. Flat-panel liquid

crystal displays (LCD), office equipment occupancy sensors, and coin-operated washing machines (without electric hot water) were also removed based on cost-effectiveness.

During 2011, program management increased training provided to trade allies. To prepare trade allies for the program changes taking place in 2011, Easy Upgrades conducted several trade ally workshops in December 2010. These workshops included a review of basic lighting design and technologies. In addition to these workshops, the program conducted two webinars to review the new lighting tool with trade allies and provided six lighting controls classes for trade allies throughout the Idaho Power service area. The lighting controls classes qualified for continuing education credits for eligible, licensed trade allies. In addition to the formal training classes held, program staff and Idaho Power CRs visited trade allies in the field, at the trade ally's business, or at a customer location to further educate them on the program criteria and to respond to their inquiries.

Based on feedback from trade allies in 2011, Easy Upgrades staff conducted five trade ally workshops held in January 2012 that reviewed the lighting portion of the program. This review was driven by the number of new companies participating in Easy Upgrades. Such workshops are a valuable tool in increasing trade allies' program knowledge to help them engage in the program more successfully.

In an effort to advance energy savings and quality in lighting design, Idaho Power was one of four utilities participating with NEEA in the regional Comprehensive Lighting Pilot. The pilot is ongoing and will conclude second quarter 2012. The purpose of the pilot is to provide valuable information regarding program design, level of incentives, and program support needed to achieve success in securing projects with increased energy savings using a comprehensive approach. Results of the pilot will be available from NEEA in the third or fourth quarter of 2012 and will be used in designing future lighting programs.

### Cost-Effectiveness

In 2011, Idaho Power implemented several administrative and program requirements for lighting projects. Prior to 2011, customers were simply able to complete the lighting worksheet to receive an incentive; however, it was often unknown what the new lighting fixture was replacing. Idaho Power contracted with Evergreen Consulting Group, LLC to create a lighting tool, or calculator similar to the one used by the Energy Trust of Oregon (ETO). The lighting tool was required for all project submissions. An initial analysis was conducted to see if the lighting measures shown in the tool were cost effective based on the average input watts and hours of operation. The actual savings for each project were calculated based on the specific information regarding the existing and replacement lighting fixture.

Idaho Power updated the savings for ECM case fan motors from the Nexant *Demand Side Management Potential Study (2009)* of 673 kWh per year to the deemed RTF savings of 453 kWh per year. Additionally, Idaho Power changed the specifications for solid-door refrigeration to be based on cubic feet and to include glass doors to better align with the deemed savings and cost information provided by the RTF. For most non-lighting measures, deemed savings from the RTF or the Nexant *Demand Side Management Potential Study (2009)* are used to calculate the cost-effectiveness.

For current, detailed cost-effectiveness assumptions, see Supplement 1: Cost-Effectiveness.

### **Customer Satisfaction and Evaluations**

As part of the ongoing evaluation process, surveys were sent to 330 program participants in mid-October, and 127 responded to the survey, resulting in a 39-percent response rate. The purpose of the survey was to collect customer feedback on the program and on the products they installed as well as the contractor used for their project.

In general, participants are "very satisfied" (91%) with the program, with all respondents saying that they were "very likely" (92%) or "somewhat likely" (8%) to recommend the program to a business associate. Over half of the respondents (55%) "strongly agree" that "Idaho Power staff was helpful," with half of the respondents (50%) indicating they "strongly agree" that Idaho Power staff provided "accurate information about the program." Half of the respondents (50%) chose the contractor for their project based on their work on previous projects. When asked if they would recommend their contractor to another business associate, 78 percent said they "definitely would." A majority of respondents (84%) received an incentive for a lighting/controls project, and all respondents indicated they were either "very satisfied" (89%) or "somewhat satisfied" (11%) with the energy efficiency equipment installed under the program. Copies of these surveys and survey results can be found in *Supplement 2: Evaluation*.

Results of the customer satisfaction survey were reviewed by the program specialist as part of the process of identifying changes to the program for 2012. The specialist wanted to know if there were any issues with the program to address in the 2012 program changes; there were none. The Easy Upgrades program specialist will continue to monitor customer satisfaction with the program throughout 2012.

## 2012 Strategies

Emphasis in 2012 will be on developing written program procedures, establishing a non-lighting verification protocol, and developing increased reporting capability.

Idaho Power will analyze restructuring the incentive for an energy management system and energy management system optimization measures. Currently, the incentive is based on affected square footage of conditioned space. The future incentive will be on a per-ton basis. The company will research the viability of adding incentives for energy-efficient chillers. Results and findings from the NEEA Comprehensive Lighting Pilot will be evaluated, and training for contractors and trade allies will continue.

Several measure changes will be implemented in 2012. Effective July 14, 2012, there will be new *Standards for General Service Fluorescent Lamps*. Idaho Power is aware of these new requirements and is involved with regional market players to develop strategies in deciding what changes to make for the lighting measures and respective incentives for the 2013 Easy Upgrades program. Idaho Power will continue offering T12 to T8 incentives throughout 2012.

A minimum connected load requirement will be implemented on some of the lighting control measures.

Incentives for NEMA Premium Efficiency general purpose motors will be removed from the program. Refrigerator display case lighting will be moved to the lighting tool. The plug load worksheet will be renamed to reflect the changes made to it in 2012. Energy-efficient personal computers and copiers will be removed from the program as these are now standard practice. Stock water tanks will be added as a new incentive measure. Programmable thermostats will be removed from the program as they are standard in the industry. The variable speed/frequency drives measures listed on the Motors and HVAC

worksheets will be moved to their own worksheet. The program will create two categories for economizer repair incentives: a higher incentive when purchased parts are required and a lower incentive when only contracted labor is involved.

## FlexPeak Management

	2011	2010	
Participation and Savings			
Participants (sites)	111	60	
Energy Savings (kWh)	n/a	n/a	
Demand Reduction (MW)	58.8	47.5	
Program Costs by Funding Source			
Idaho Energy Efficiency Rider	\$1,954,850	\$1,807,527	
Oregon Energy Efficiency Rider	\$102,880	\$95,153	
Idaho Power Funds	\$0	\$0	
Total Program Costs—All Sources	\$2,057,730	\$1,902,680	
Program Levelized Costs			
Utility Levelized Cost (\$/kWh)	n/a	n/a	
Total Resource Benefit/Cost Ratio	n/a	n/a	
Program Life Benefit/Cost Ratios			
Utility Benefit/Cost Ratio	1.19		
Total Resource Benefit/Cost Ratio	1.19		
Program Characteristics			
Program Jurisdiction	Idaho/Oregon		
Program Inception	20	09	

## **Description**

FlexPeak Management is a voluntary demand response program available in Idaho and Oregon service areas targeting Idaho Power's industrial and large commercial customers that are capable of reducing their electrical energy loads for short periods during summer peak days. The program objective is to reduce the demand on Idaho Power's system during peak times through customers' voluntary electrical-use reduction. The program is active June 1 to August 31 between the hours of 2:00 p.m. and 8:00 p.m. on non-holiday weekdays. Customers receive notification of a demand reduction event two hours prior to the start of the event, and events last between two and four hours.

In November 2008, EnerNOC, Inc., was selected through a competitive request for proposal (RFP) process to implement the program. Idaho Power entered into a five-year contract with EnerNOC in February 2009. In May 2009, the IPUC approved the contract in Order No. 30805. In June 2010, the program was approved by the OPUC in Order No. 10-206.

EnerNOC is responsible for developing and implementing all marketing plans, securing all participants, installing and maintaining all equipment behind Idaho Power's meter used to reduce demand, tracking participation, and reporting results to Idaho Power. Idaho Power initiates demand response events by notifying EnerNOC, who then supplies the requested load reduction to the Idaho Power system.

EnerNOC meets with prospective customers to identify their potential to reduce electrical energy load during active program hours without negative impact to their business operations. Customers initially enroll in the program by entering into a contract with EnerNOC. EnerNOC then installs energy

monitoring equipment at the customer site, simulates a demand response event to ensure customer satisfaction and performance, and officially enrolls the facility in the program.

Each week, EnerNOC commits a demand reduction level in MW to Idaho Power that EnerNOC is obligated to meet in a demand reduction event. EnerNOC is subject to financial penalties for failing to reach the committed MW reduction.

When Idaho Power anticipates the need for capacity, it notifies EnerNOC of the date and time of the event. Idaho Power has access to near real-time energy-usage data and can continuously monitor the success of the demand reduction event in aggregate. Customers can also continuously monitor their demand reduction performance using their individual, near real-time energy-usage data.

### 2011 Activities

There were no changes to the program in 2011. The first week of the program, EnerNOC committed to provide a meter-level reduction of 33.0 MW. This weekly commitment, or nomination, was comprised of 78 facility sites, of which 64 participated in the program in 2010 and 14 were added in 2011. The weekly nomination at the end of the season was 41.4 MW, comprised of 103 facility sites. Part of the increase in facility sites was due to the way customer sites were reported at the beginning of the season versus at the end of the season. In July, at Idaho Power's request, EnerNOC began reporting individual sites by meter, rather than location, in order to have the ability to analyze performance by customer class. Therefore, though the number of sites nominated started at 64, it increased by 11 due to the way sites were reported. The actual number of customer sites added in 2011 was 37. The number of customer sites removed was nine.

EnerNOC was contractually obligated to commit to provide at least 35 MW of reduction for each week in 2011. Their weekly commitments ranged from 31.0 MW to 41.9 MW. The first 11 weekly commitments were below the 35 MW minimum, and therefore EnerNOC was subject to a penalty for those weeks. The last three weeks of the season they were above the 35 MW minimum and did not receive a penalty. The commitment peaked in August at 41.9 MW.

Idaho Power called 14 demand response events for the FlexPeak Management program in 2011. Eight events occurred in July and six in August. EnerNOC successfully exceeded the committed MW reduction in nine of the 14 events. Of the five events when their average performance was below the committed level, the performances ranged from 93 percent to 99 percent. The highest hourly reduction achieved was in July at 58.8 MW (52.0 MW at the meter), which exceeded the target reduction of 35 MW for the summer of 2011.

#### Cost-Effectiveness

On December 30, 2011, the IPUC acknowledged Idaho Power's 2011 IRP. As a result, each program's cost-effectiveness models have been updated to reflect the newly accepted financial inputs and DSM alternate costs.

The B/C analysis for the FlexPeak Management program is based on a 10-year model that uses financial and DSM alternative cost assumptions from the 2011 IRP. As published in the 2011 IRP, for peaking alternatives, such as demand response programs, a 170-MW SCCT is used as an avoided resource cost.

In addition to these updates, Idaho Power has reviewed its methodology to analyze the cost-effectiveness of its demand response programs. These changes are shown in detail in *Supplement 1: Cost-Effectiveness*.

This analysis is updated annually with actual benefits and costs. For the FlexPeak Management program, the benefits are based on measured demand reduction at the participant's meter. The costs include the fees paid to EnerNOC and Idaho Power administration for the program. The 2011 cost-effective analysis demonstrated the FlexPeak program has a TRC ratio of 1.19 from a long-term prospective and a TRC ratio of 1.93 for 2011. *Supplement 1: Cost-Effectiveness* contains details on the cost-effectiveness assumptions and data.

### **Customer Satisfaction and Evaluations**

In early 2011, EnerNOC sent an Annual Customer Survey to 125 of the 2010 participants via email. These participants represent multiple contacts for each site. Fifteen customers responded for a response rate of 12 percent. On a scale of 1 to 10, 10 being "very satisfied," the average level of satisfaction with EnerNOC's Operations Support was 8.1, the average level of satisfaction with EnerNOC's Sales Support was 8.5, the average level of satisfaction with the installation and maintenance of equipment installed at participants' facilities was 7.3, and the average level of overall satisfaction with EnerNOC was 8.3 (up from 7.7 the previous year). On a scale of 1 to 10, 10 being "extremely likely," when asked how likely they would be to recommend EnerNOC to a colleague or business partner, the average result was 8.3 (up from 8.0 the previous year). Of the 15 responses, nine reported no difference in their opinion of Idaho Power based on their participation in the program, five reported an improved opinion of Idaho Power, and one gave no response. A summary of the results are in *Supplement 2: Evaluation*.

EnerNOC sent a post-event survey via email after the first events in July 2011 to 125 participants representing all the sites enrolled in the event. Twenty-nine participants responded for a 23 percent response rate. When asked how prepared they felt for the demand response event, on a scale of 1 to 10, 10 being "fully prepared," the average response was 8.4. When asked how likely they were to recommend EnerNOC to a peer or business partner, on a scale of 1 to 10, 10 being "definitely will," the average response was 7.8. When asked how clear the initial notification they received from EnerNOC was on the day of the event, on a scale of 1 to 10, 10 being "very clear," the average response was 9.2. When asked how satisfied they were with how EnerNOC managed the demand response event, on a scale of 1 to 10, 10 being "very satisfied," the average response was 8.3. When asked about their overall satisfaction with EnerNOC, on a scale of 1 to 10, 10 being "very satisfied," the average response was 8.1. A summary of the results are in *Supplement 2: Evaluation*.

In September 2011, Idaho Power contracted with ADM Associates, Inc., to conduct a customer survey regarding the effectiveness of the FlexPeak Management program as a demand response program. The majority of survey respondents (88%) have participated in the program for two or more summers. Eighty percent of the customers estimated there were six or more events during the summer of 2011. The majority of respondents (74%) indicated there were more events called during 2011 than in 2010. Just over half (56%) of the respondents did not opt out of any events during the 2011 season. The majority of respondents (78%) indicated they are "very likely" to participate in the program in 2012. Half the respondents (51%) participated in the program because of the financial incentive. Overall satisfaction with the program was high among respondents, with 86 percent indicating they are "very satisfied" with the program. Nearly all (91%) of the respondents are "very likely" to recommend the FlexPeak Management program to others. A summary of results can be found in *Supplement 2: Evaluation*.

In 2011, Idaho Power conducted an internal Program Report for 2010 and 2011. The report shows a total of four demand response events initiated in 2010, with one event occurring in June, two in July, and one in August. The highest hourly reduction achieved was in July at 47.5 MW. The report indicates fourteen total events were initiated in 2011, with eight events occurring in July and six in August. The highest hourly reduction achieved was in July at 50.8 MW. The largest committed MW reduction came from the Asphalt, Concrete and Gravel segment at 43 percent of the total, followed by Food Processing and Light Industrial at 16 and 15 percent, respectively. A summary of results can be found in *Supplement 2: Evaluation*.

## 2012 Strategies

EnerNOC plans to conduct a post-season customer satisfaction survey for the 2011 season during the first quarter of 2012. The results will be made available to Idaho Power. Idaho Power will continue to evaluate the best use of the program to meet the program objectives, maximize the benefit to Idaho Power's system, and refine internal criteria to call demand reduction events. EnerNOC is contractually obligated to commit to provide at least 35 MW of reduction for each week in 2012.

# **Oregon Commercial Audits**

	2011	2010	
Participation and Savings			
Participants (audits)	12	22	
Energy Savings (kWh)	n/a	n/a	
Demand Reduction (MW)	n/a	n/a	
Program Costs by Funding Source			
Idaho Energy Efficiency Rider	\$0	\$0	
Oregon Energy Efficiency Rider	\$13,597	\$5,049	
Idaho Power Funds	\$0	\$0	
Total Program Costs—All Sources	\$13,597	\$5,049	
Program Levelized Costs			
Utility Levelized Cost (\$/kWh)	n/a	n/a	
Total Resource Benefit/Cost Ratio	n/a	n/a	
Program Life Benefit/Cost Ratios			
Utility Benefit/Cost Ratio	n/a		
Total Resource Benefit/Cost Ratio	n/a		
Program Characteristics			
Program Jurisdiction	Oregon		
Program Inception	19	83	

## **Description**

The Oregon Commercial Audits program identifies opportunities for commercial building owners to achieve energy savings. This is a statutory program offered under Oregon Rate Schedule No. 82. Through this program, free energy audits provide evaluations and educational services to customers. Annual mailings to each customer in the commercial sector communicate program benefits and offerings.

### 2011 Activities

Idaho Power sent out its annual mailing to approximately 3,400 Oregon commercial customers in August 2011. Customers were notified of the availability of no-cost energy audits and provided the Idaho Power publication *Saving Energy Dollars*. Thirteen customers requested an audit, with eight audits completed by Idaho Power and four completed by a third-party contractor. One small Rate 7 audit was cancelled after a pre-visit phone conversation.

The contract for EnerTech Services was re-issued in 2011 and continues through March 2013. During the audits conducted by EnerTech Services, customers receive Idaho Power energy efficiency program information. In the course of the energy audit, EnerTech Services discusses maintenance and efficiency opportunities available to meet customer needs.

### Cost-Effectiveness

As previously stated, the Oregon Commercial Audits program is a statutory program offered under Oregon Rate Schedule No. 82. Since the required parameters of the Commercial Energy Audit Program

are specified in Schedule No. 82 and the company abides by these specifications, this program is deemed to be cost effective. Idaho Power claims no energy savings from this program.

### **Customer Satisfaction and Evaluations**

The value of an audit is the identification of actual savings opportunities in the customer's facility. Audits provide the opportunity to discuss utility incentives that are available to customers who install qualifying energy efficiency measures. Both activities can lead to energy efficiency projects being undertaken. One such example was an Idaho Power commercial customer who requested a commercial audit. Idaho Power discussed the usual items, including an HVAC upgrade, envelope upgrade, and lighting. The customer's owned a split building where one half was for automotive repair and the other half was a machine shop. After discussing energy savings, rebates, and incentives, the customer installed T-8 fluorescent lamps and electronic ballasts in the automotive repair portion of the building. The employees working in the machine shop stated to the Idaho Power customer/building owner that they too prefer the new lighting. The customer is considering upgrading the remaining section possibly in 2012.

## 2012 Strategies

In conjunction with Idaho Power, EnerTech Services will continue to help customers identify projects that save energy and provide non-energy benefits to the customers, such as the improvement of space lighting levels associated with newer lighting technologies. The audit process will continue to be used as a way to introduce customers to available Idaho Power incentive programs.

## **IRRIGATION SECTOR OVERVIEW**

# **Description**

The irrigation sector is composed of agricultural customers operating water pumping or water delivery systems to irrigate agricultural crops or pasturage. The end-use equipment primarily consists of agricultural irrigation pumps and center pivots. This customer group does not include water pumping for non-agricultural purposes, such as the irrigation of lawns, parks, cemeteries, golf courses, or domestic water supply.

In November 2011, the active and inactive irrigation service locations totaled 18,757 system-wide. This was an increase of 1 percent compared to 2010, due to the addition of service locations being added for pumps and pivots to convert land previously furrow irrigated to sprinkler irrigation systems. Irrigation customers accounted for 1,670,779 MWh of energy usage in 2011, which was down from 2010 by 2 percent. This sector represented about 13 percent of Idaho Power's total electricity usage and about 23 percent of peak demand in the summer. Energy usage for this sector has not grown significantly in many years; however, there is substantial yearly variation in usage due primarily to the impact of weather on customer irrigation needs.

Idaho Power currently offers two programs to the irrigation sector: 1) Irrigation Peak Rewards, a demand response program designed to decrease system peak demand; and 2) Irrigation Efficiency Rewards, an energy efficiency program designed to encourage the replacement or improvement of inefficient systems and components. Idaho Power also pays incentives to customers participating in the Green Rewind opportunity where motor service centers are paid \$2.00 per hp for each NEMA Standard hp-rated motor between 25 hp and 5,000 hp for agricultural uses that receives a verified Green Rewind. Participation in Green Rewind ensures the motor's original efficiency is maintained if it is rewound at an approved service center. Table 9 summarizes the overall expenses and program performance for both the energy efficiency and demand response programs provided to irrigation customers.

The Irrigation Peak Rewards program had 320 MW of available demand reduction capacity for the summer of 2011, an increase of 70 MW over last summer's program capacity. The Irrigation Peak Rewards program experienced a 28-percent increase in MW demand reduction potential in 2011. For the 2011 season, 2,342 service points were enrolled, compared to 2,038 in 2010, which represents a 15-percent increase. During 2011, irrigation customers contributed 36,064 kWh per year of energy savings from 32 motors participating in Green Rewind.

The Irrigation Efficiency Rewards program, in operation since 2003, saw its annual savings increase by 3,011,403 kWh to 13,979,833 kWh as compared to 2010 reported savings. The savings increase in 2011 was primarily the result of more larger projects being submitted in 2011 and an increase in menu projects. The increase in menu projects was a result of both greater focus at irrigation workshops and previously replaced components reaching their operational lifespan.

## **Programs**

Table 9. 2011 Irrigation program summary

			Total Costs		Savin	ıgs
Program	F	Participants	Utility	Resource	Annual Energy (kWh)	Peak Capacity (MW)
Demand Response						
Irrigation Peak Rewards	2,342	service points	\$12,086,222	\$12,086,222	n/a	320.0
Total			\$12,086,222	\$12,086,222	n/a	320.0
Energy Efficiency						
Irrigation Efficiency Rewards	880	projects	\$2,360,304	\$13,281,492	13,979,833°	3.8
Total			\$2,360,304	\$13,281,492	13,979,833	3.8

<sup>&</sup>lt;sup>a</sup> See Appendix 3 for notes on methods and column definitions.

Each year, the company conducts a customer relationship survey. Overall, 52 percent of Idaho Power irrigation customer surveyed in 2011 for the Burke Customer Relationship survey indicated Idaho Power was meeting or exceeding their needs in offering energy efficiency programs. Fifty-five percent of survey respondents indicated Idaho Power is meeting or exceeding their needs with information on how to save energy or reduce their bill. Sixty-two percent of respondents indicated Idaho Power is meeting or exceeding their needs with encouraging energy efficiency with its customers. Overall, 31 percent of the irrigation survey respondents indicated they have participated in at least one Idaho Power energy efficiency program. Of irrigation survey respondents who have participated in at least one Idaho Power energy efficiency program, 91 percent are "very" or "somewhat" satisfied with the program.

## **Irrigation Efficiency Rewards**

	2011	2010	
Participation and Savings			
Participants (projects)	880	753	
Energy Savings (kWh) <sup>a</sup>	13,979,833	10,936,463	
Demand Reduction (MW)	3.8	3.3	
Program Costs by Funding Source			
Idaho Energy Efficiency Rider	\$2,153,613	\$2,059,676	
Oregon Energy Efficiency Rider	\$176,619	\$110,034	
Idaho Power Funds	\$30,072	\$31,104	
Total Program Costs—All Sources	\$2,360,304	\$2,200,814	
Program Levelized Costs			
Utility Levelized Cost (\$/kWh)	\$0.020	\$0.030	
Total Resource Benefit/Cost Ratio	\$0.113	\$0.096	
Program Life Benefit/Cost Ratios			
Utility Benefit/Cost Ratio	4.54		
Total Resource Benefit/Cost Ratio	1.79		
Program Characteristics			
Program Jurisdiction	Idaho/Oregon		
Program Inception	2003		

<sup>&</sup>lt;sup>a</sup> Includes kWh savings from Green Rewind.

## **Description**

The Irrigation Efficiency Rewards program encourages energy-efficient equipment use and design in irrigation systems. Qualified irrigators in Idaho Power's Idaho and Oregon service area can receive financial incentives and reduce their electricity usage. Incentives for the Irrigation Efficiency Rewards program help the customer recover a portion of the costs of installation of a new, more efficient irrigation system and energy-efficient improvements to existing systems.

Two options help meet the needs for major or minor changes on new or existing systems. The Custom Incentive Option addresses extensive retrofits of existing systems or new irrigation systems, providing component upgrades and large-scale improvements. For new systems, the incentive is 25 cents per first year kWh saved above standard installation methods, not to exceed 10 percent of total project cost. For existing system upgrades, the incentive is 25 cents per first year kWh saved, or \$450 per kW demand reduction, whichever is greater, but not to exceed 75 percent of the total project cost. The qualifying energy efficiency measures include any hardware changes that result in a reduction of the pumping hp requirement or hours of operation.

Idaho Power reviews, analyzes, and makes recommendations on each application. On each completed project, before final payment, all project information is reviewed. Prior usage history, actual invoices, and, in most situations, post-usage demand data, are available to verify savings and incentives.

The Menu Incentive Option covers a significant portion of the costs of repairing and replacing specific components that help the irrigation system use less energy. This option is designed for systems in which

small maintenance upgrades provide energy savings from 11 separate measures. These measures include the following:

- New flow-control nozzles
- Replacement of worn brass or plastic nozzles
- Rebuilt or new impact sprinklers
- Rebuilt or new wheel line levelers
- New low-pressure or rotating type sprinklers
- New low-pressure regulators
- New drains, riser caps, and gaskets
- New wheel line hubs
- New pivot gooseneck and drop tube
- Leaky pipe repair
- New center pivot base boot gasket

Payments are calculated on predetermined average kWh savings per component.

Participation in Green Rewind is an opportunity that enables customers to maintain the motor's original efficiency and ensures an efficient use of electricity to run the motor. Motor service centers are paid \$2.00 per hp for each NEMA Standard hp-rated motor between 25 and 5,000 hp that receives a verified Green Rewind. The RTF approved the Green Motors Practices rewinding as an energy efficiency measure and approved a table of deemed savings for industrial and agricultural applications.

In addition to incentives, the program offers customer education, training, and irrigation-system assessments. Idaho Power agricultural representatives sponsor, coordinate, conduct, and present educational workshops for irrigation customers, providing expert information and training across Idaho Power's service area. Energy audits conducted by Idaho Power agricultural representatives evaluate prospective customers' potential savings. Agricultural representatives from Idaho Power also engage agricultural irrigation equipment dealers in training sessions, increasing awareness of the program and promoting it through the irrigation equipment distribution channels. Marketing efforts include direct-mailings, advertisements in agricultural publications, and participation in agricultural workshops and conferences. Idaho Power's agricultural representatives are funded approximately 30 percent by the Riders and 70 percent from base rates.

#### 2011 Activities

Idaho Power agricultural representatives, the program specialist, and the agricultural engineer participated in training that maintains their Certified Irrigation Designer (CID) and Certified Agricultural Irrigation Specialist (CAIS) certifications. This training allows Idaho Power to maintain its high level of expertise in the irrigation industry and is sponsored by the national Irrigation Association.

Idaho Power continued to market the program by varying the location of workshops and offering new presentations to irrigation customers. In 2011, Idaho Power provided six workshops promoting the Irrigation Efficiency Reward program throughout the service area. Approximately 220 customers attended workshops in Blackfoot, Aberdeen, Burley, Twin Falls, Glenns Ferry, and Payette.

Idaho Power also accepted invitations to present the program at two workshops sponsored by agricultural groups in Hailey, Idaho, and Ontario, Oregon. Exhibitor booths were displayed at regional agricultural trade shows, including the Eastern and the Western Idaho Agriculture Expos, the Agri-Action Ag show, the Idaho Ag Summit, and the Idaho Irrigation Equipment Association show and conference.

Of the 880 irrigation efficiency projects completed in 2011, the 746 associated with the Menu Incentive Option provided 8,077 MWh of energy savings and 1.58 MW of demand reduction. The Custom Incentive Option had 134 projects, of which 61 were new irrigation systems and 73 were on existing systems. This option provided 5,867 MWh of energy savings and 2.20 MW of demand reduction for the year. Also during 2011, irrigation customers contributed 36,064 kWh of energy savings from 32 motors participating in the Green Rewind opportunity.

In 2010, Idaho Power reviewed the cost-effectiveness of continuing the Green Motors Initiative for both industrial and agricultural motors. Based on the new RTF-approved energy savings, it was determined that some of the smaller motors did not pass the PCT. For 2011, rewinds on motors less than 25 hp were removed from the initiative.

In 2010, Idaho Power contracted with The Cadmus Group, Inc., to conduct a process evaluation of the Irrigation Efficiency Rewards program. This evaluation included a program data review, program logic model, internal customer survey evaluation, industry best practices comparison, conclusions, and recommendations. The final report was received in February 2011 and noted that this is "a robust, ambitious, and leading-edge irrigation program," and that the program has "strong relationships with customers and trade allies, credibility, and high demand."

Coincident to the process evaluation, in 2011 Idaho Power created a new database and data tracking system for all applications and projects to provide better reporting processes for future evaluations. The process evaluation also recommended that Idaho Power consider expanding outreach and assistance efforts to capitalize on the technical strength of a "well-trained" Idaho Power program staff. Idaho Power agricultural representatives worked above their time normally spent on irrigation efficiency projects, educating customers at workshops, training irrigation dealers and trade allies, and providing customer care. Their relationships with dealers and customers results in an increased number of irrigation efficiency projects and audits being completed each year. As recommended in the process evaluation, detailed application process training was included in the five spring workshops.

#### Cost-Effectiveness

Each application under the Custom Incentive Option received by Idaho Power undergoes an assessment to estimate the energy savings that will be achieved through a customer's participation in the program. To estimate the effectiveness of a project, Idaho Power uses a service point's previous five years of electricity usage history and, based on the specific equipment to be installed, calculates the estimated post-installation energy consumption of the system. The company also verifies the completion of the system design through aerial photographs, maps, and field visits by Idaho Power agricultural representatives to ensure the irrigation system is used in the manner the documentation describes.

Each application under the Menu Incentive Option received by Idaho Power also undergoes an assessment to ensure savings are achieved. Payments are calculated on predetermined average kWh savings per measure. In some cases, the energy savings estimated in the Menu Incentive Option are adjusted downward to reflect how the components are actually being used. No changes occurred to the assumptions that drive the cost-effectiveness of the measures that are part of this program.

All cost-effective analyses were based on the provisionally deemed savings approved by the RTF in January 2010; however, the RTF gave these measures a sunset date of February 2011. These measures are currently under review, and Idaho Power is partnering with the University of Idaho to study the saving impacts of the measures provided in the Menu Incentive Option.

Based on the provisionally deemed savings from the RTF, nearly all the measures offered under the Menu Incentive Option are cost effective. The rebuilt and new wheel line levelers were shown to be not cost effective in 2010. After reviewing the measure, it was determined that the cost of the new wheel line levelers was negatively impacting the cost-effectiveness of the measure. In 2012, the measure will be modified to only include rebuilt wheel line levelers in the program's offerings.

For details on the cost-effectiveness assumptions for the Menu Incentive Option, see *Supplement 1: Cost-Effectiveness*.

#### **Customer Satisfaction and Evaluations**

To address recommendations made by The Cadmus Group, Inc., in the 2010 Irrigation Efficiency Rewards process evaluation, Idaho Power conducted a customer satisfaction survey in fall 2011. The company mailed a 12-question satisfaction survey to 1,605 unique customers that participated in the program between 2004 through 2010, with 417 surveys completed, resulting in a 26-percent response rate. While some respondents (33%) felt that the incentives were too small, a majority of respondents (78%) indicated they would participate in the program again if they determined their system needed an upgrade. Most customers (62%) indicated they "definitely would" recommend the program to someone in the agricultural community.

Overall, customer satisfaction is high, with 96 percent of respondents indicating that they were "somewhat" or "very satisfied" with the program. The complete survey is provided in *Supplement 2: Evaluation*.

#### 2012 Strategies

Marketing plans for 2012 include conducting five to six customer-based irrigation workshops. Additionally, Idaho Power program specialists, agriculture representatives, and an agriculture engineer will attend five regional trade shows. These workshops and trade shows enable discussions between Idaho Power representatives, the company's customers, irrigation dealers, and trade allies while continually educating them about irrigation best practices, the program, and ways to participate. Each year, workshops are conducted in different local areas. Subjects and presentations are updated to offer new ideas.

Idaho Power is reviewing the program regarding measures offered in the Menu Incentive Option. New wheel line levelers will be removed from the program in 2012, with the company still offering incentives for rebuilt wheel line levelers. A research project is currently in place under contract with the University of Idaho Extension to determine and validate energy savings attributed to the replacement of irrigation components offered in the Menu Incentive Option. The results of this research project will help determine changes to the program in future years.

#### **Irrigation Peak Rewards**

	2011	2010	
Participation and Savings			
Participants (service points)	2,342	2,038	
Energy Savings (kWh)	n/a	n/a	
Demand Reduction Capacity (MW)	320.0	249.7	
Program Costs by Funding Source			
Idaho Energy Efficiency Rider	\$11,790,216	\$13,096,946	
Oregon Energy Efficiency Rider	\$254,013	\$184,075	
Idaho Power Funds	\$41,993	\$49,805	
Total Program Costs—All Sources	\$12,086,222	\$13,330,826	
Program Levelized Costs			
Utility Levelized Cost (\$/kWh)	n/a	n/a	
Total Resource Benefit/Cost Ratio	n/a	n/a	
Program Life Benefit/Cost Ratios			
Utility Benefit/Cost Ratio	1.	72	
Total Resource Benefit/Cost Ratio	1.64		
Program Characteristics			
Program Jurisdiction	Idaho/Oregon		
Program Inception	2004		

#### **Description**

Idaho Power's Irrigation Peak Rewards program is a voluntary program available to all Idaho and Oregon agricultural irrigation customers. The purpose of the program is to decrease the company's system summer peak by turning off specified irrigation pumps with the use of one or more load control devices during the program season of June 15 through August 15.

In 2011, all Idaho Power irrigation customers taking service under Schedule 24 in both Idaho and Oregon were eligible, and participants chose between three options: 1) the Electric Timer Option, 2) an Automatic Dispatch Option that allows Idaho Power to remotely turn off participants' pumps, or 3) a Manual Dispatch Option designed for large service locations with 1,000 hp or greater that allows participating customers, after being notified by Idaho Power, to choose which pumps to manually turn off during summer peak hours.

Service points participating in the Manual Dispatch Option were required to nominate the amount of kW available to be turned off. Participants in the Electronic Timer Option can choose to have all irrigation pumps on a single, metered service point turned off one, two, or three times per week. Interruptions occur from 4:00 p.m. to 8:00 p.m., and Idaho Power determines the specific weekday or weekdays to schedule the interruption of all pumps at each service point. Installation fees between \$250 and \$500 are applied to participating service locations less than 75 hp. For customers participating in the dispatch options, load control events could occur up to four hours per day, up to 15 hours per week, but no more than 60 hours per season. For 2011, dispatchable load control events could happen between 1:00 p.m. and 9:00 p.m. on weekdays and Saturday. A control device attached to the customer's individual pump electrical panels allows Idaho Power to remotely control the pumps. Installation fees between \$500 and

\$1,000 were applied to participating service points with less than 50 hp depending on the option customers chose.

In 2011, the incentive structure changed to include a fixed and variable incentive payment, with an increased credit amount for service points that voluntarily participated in the 'Extended' 9 p.m. late interruption period. A customer's 'Fixed' incentive appeared as a bill credit that summed the demand credit and energy credit for the interruption option selected and applied to a customer's monthly bills. The 'Variable' incentive is a summary of all load control event kWhs multiplied by the variable incentive credit paid in the form of a check within 45 days of the end of the program season. Credits are prorated for periods when reading/billing cycles do not align with the program season dates from June 15 to August 15. All customer incentives participating in the Electric Timer, Automatic Dispatch, or Manual Dispatch Options are calculated using Idaho Power meter billing data. In addition, manual option customers' incentives are calculated using interval metering data and nominated kW. Installation fees and opt-out penalties are completed through manual bill adjustments.

Incentives determined from interval meter data for service points classified as large service locations are completed through a manual process, and customers received the incentives in the form of a check in 2011. Incentives offered are listed in Table 10.

Table 10. Option incentives

Dispatchable Interruption Option Incentives								
Dispatchable Option Fixed Incentive Payment Varia				Variable	Incentiv	ve Payments		
	Demand C (\$/billing I			Energy Credit Standard Interruption (\$/billing kWh) Variable		Extended Interruption Variable**		
Options 1, 2, and 3	\$5.00	and	\$0.019	plus	\$0.159	or	\$0.209	

<sup>\*</sup> Energy Credit: 4 hours between 1-8 p.m. (\$/event kWh)

<sup>\*\*</sup> Energy Credit: 4 hours between 1–9 p.m. (\$/event kWh)

Electronic Timer Option Incentives						
Option	Demand Credit (\$ per billing kW)		Energy Credit (\$ per billing kWh)			
Timer Option Incentives						
One weekday	\$3.15					
Two weekdays	\$4.65	plus	\$0.002			
Three weekdays	\$4.65	plus	\$0.007			

Under the rules of the Automatic and Manual Dispatch Options, participants have the ability to opt out of dispatch events five times per service point. Each opt-out incurs a fee of \$1.00 per kW based on the current month's billing kW, which may be prorated to correspond with the dates of program operation and are completed through manual bill adjustments.

#### 2011 Activities

Substantial program changes were approved by the IPUC on March 14, 2011, under Case No. IPUC IPC-E-10-46 and the OPUC on March 22, 2011, under Advice No. 11-01. These program modifications are a result of Idaho Power's internal review and input from the Idaho Irrigation Pumpers Associations, the Integrated Resource Plan Advisory Council (IRPAC), and the EEAG.

Program changes that were implemented for the 2011 program season include the following:

- The incentive structure was modified to include a fixed and variable payment that pays customers a portion of their incentive for participation and a portion of their incentive based on how much the company uses the program.
- Allow the company to pay the variable portion of the incentive through a check at the end of the season.
- Require participants in the Manual Dispatch Option (>1,000 hp) to nominate the amount of kW they are enrolling in the program by June 1 of the program year.
- Changed the baseline calculation for the Manual Dispatch Option to the maximum demand in the 24-hour period preceding 2:00 pm Mountain Standard Time (MST) the day of the event announcement.
- Modified the opt-out penalty fee for the program from 0.005 cents per kWh based on the current month's billing kWh to \$1 per billing kW per opt-out.
- Added the extended interruption option from 5:00 p.m. to 9:00 p.m. as an option that customers can sign up for that pays a higher variable incentive.

In 2011, participation in the program increased by 304 service points. Most of the challenges surrounding the dispatch devices and communications that occurred in prior years were resolved. In 2011, the program had the potential to achieve a maximum peak load reduction of approximately 320 MW. This represents a 15-percent increase from 2010. Participation has been very good with this program. Of all eligible irrigation service locations, approximately 12.5 percent are participating in the program. In 2011, there were 2,342 metered service points enrolled in the program. Of the 2,342 enrolled service points, approximately 5 percent were enrolled in the Electric Timer Option and 95 percent were enrolled in the Automatic and Manual Dispatch Options.

Idaho Power attempted to distribute the Electric Timer Option participating service points evenly throughout each weekday based on cumulative demand reduction potential. However, due to service-point size variability, enrollment requests by customers, enrollment opt-outs, and other variables, the load reduction could not be exactly balanced. All participants in the Automatic and Manual Dispatch Options were grouped into five regional areas to be dispatched on each scheduled event day. Table 11 shows the MW reduction achieved daily on a week-by-week basis.

Table 11. Total program daily MW reduction without distribution losses using realization rates

	Monday	Tuesday	Wednesday	Thursday	Friday
June 15–17	n/a	n/a	6.7	4.3	2.9
June 20–24	4.2	4.0	7.2	4.5	3.1
June 27–July 1	4.2	4.0	7.2	4.5	3.1
July 4–8	3.9	3.8	320 <sup>a</sup>	4.3	2.9
July 11–15	3.9	3.8	6.7	4.3	2.9
July 18–22	3.4	3.3	6.0	3.8	2.6
July 25–29	3.4	3.3	6.0	3.8	2.6
August 1–5	3.2	3.1	5.5	3.5	2.4
August 8–15	3.2	3.1	5.5	3.5	2.4
August 15	3.2	n/a	n/a	n/a	n/a

<sup>&</sup>lt;sup>a</sup> The shaded cell is Idaho Power's peak load day and reflects the estimated MW load reduction capacity available through the program.

Although the load reduction provided by the Irrigation Peak Rewards program was available to Idaho Power throughout the 2011 program season, dispatching of the program was unnecessary. This was due to the low system peak demands, low energy prices, and lack of system emergencies during the summer. Under its new design including a variable incentive, the program had an approximate dispatch price of \$200 per MWh, which would total about \$270,000 per event for 2011. The program is used when hourly energy prices are greater than the dispatch cost of the program, if the company cannot meet its peak needs or to avert a system emergency.

Idaho Power continued to market the program by varying the location of workshops and offering new presentations to irrigation customers. In 2011, Idaho Power provided eight workshops promoting the Irrigation Efficiency Reward program throughout the service area. Approximately 220 customers (combined total) attended workshops in Blackfoot, Aberdeen, Burley, Twin Falls, Glenns Ferry, Mountain Home, Nampa, and Payette. Idaho Power also accepted invitations to present the program at two workshops sponsored by agricultural groups in Hailey and Ontario. Exhibitor booths were displayed at regional agricultural trade shows, including the Eastern and Western Idaho Agriculture Expos, the Agri Action Ag show, the Idaho Ag Summit, and the Idaho Irrigation Equipment Association show and conference.

After receiving approval of the program changes from the IPUC and OPUC, a customer mailing was sent to all eligible Idaho Power irrigation customers with at least one service point over 30 hp. The mailing included a program explanation, a program application, contract agreement, the program's incentive structure, a listing of the customer's eligible service points, and a potential incentive estimate for each program option based on the customer's 2010 usage. Changes to the tariff resulted in all participants signing a new contract agreement with Idaho Power. Three weeks prior to receiving their customer sign-up mailing, past participants were mailed a letter explaining the need for a new contract and an expected date in which they would receive their sign-up mailing. Customers with less than 30 hp did not receive a sign-up mailing and were less likely to participate because of the installation fees resulting in multi-year payback from the incentive. If these customers had a desire to participate, all additional information, including the application and contract agreement was mailed to them at their request. Additionally, numerous one-on-one conversations with Idaho Power agriculture representatives familiarized customers with the technology and program details.

#### Cost-Effectiveness

On December 30, 2011, the IPUC acknowledged Idaho Power's 2011 IRP. As a result, each program's cost-effectiveness models have been updated to reflect the newly accepted financial inputs and DSM alternate costs.

The B/C analysis for the Irrigation Peak Rewards program is based on a 20-year model that uses financial and DSM alternative cost assumptions from the 2011 IRP. As published in the 2011 IRP, for peaking alternatives, such as demand response programs, a 170-MW SCCT is used as an avoided resource cost.

In addition to these updates, Idaho Power changed its methodology to analyze the cost-effectiveness of its demand response programs. These changes are shown in detail in *Supplement 1: Cost-Effectiveness*.

The benefits are based on peak reduction and shifted energy use. While the program was not needed in 2011, the value of the program is based on the capacity available through the program. The UC and TRC differ in the program's cost-effectiveness due to the assumptions the company has made in regards to the customers' costs to participate in the program. Updating the cost-effectiveness model in 2011 resulted in

a UC B/C ratio of 1.72 from the 20-year prospective and 2.32 for 2011. The TRC B/C ratio is 1.64 from the 20-year prospective and 2.32 for 2011. For details on the cost-effectiveness assumptions, see *Supplement 1: Cost-Effectiveness*.

#### **Customer Satisfaction and Evaluations**

In 2011, Idaho Power contracted with PECI to conduct a process evaluation of the current Irrigation Peak Rewards program processes.

Evaluation methodology included a review of program materials and key processes, staff interviews, a review of existing customer satisfaction and incentive structure survey, and secondary research on similar programs in other states.

Evaluation results indicate that the program operates with a consistent program delivery framework, there is an established and well-documented routine to the program, and internal stakeholders and third-party vendors responsible for program delivery have a clear and consistent understanding of the program and how it operates. In addition, the evaluation found that program staff responsible for delivering the program are knowledgeable and generally well respected and agricultural customers appreciate the incentive and specifically value how it reduces their operating costs.

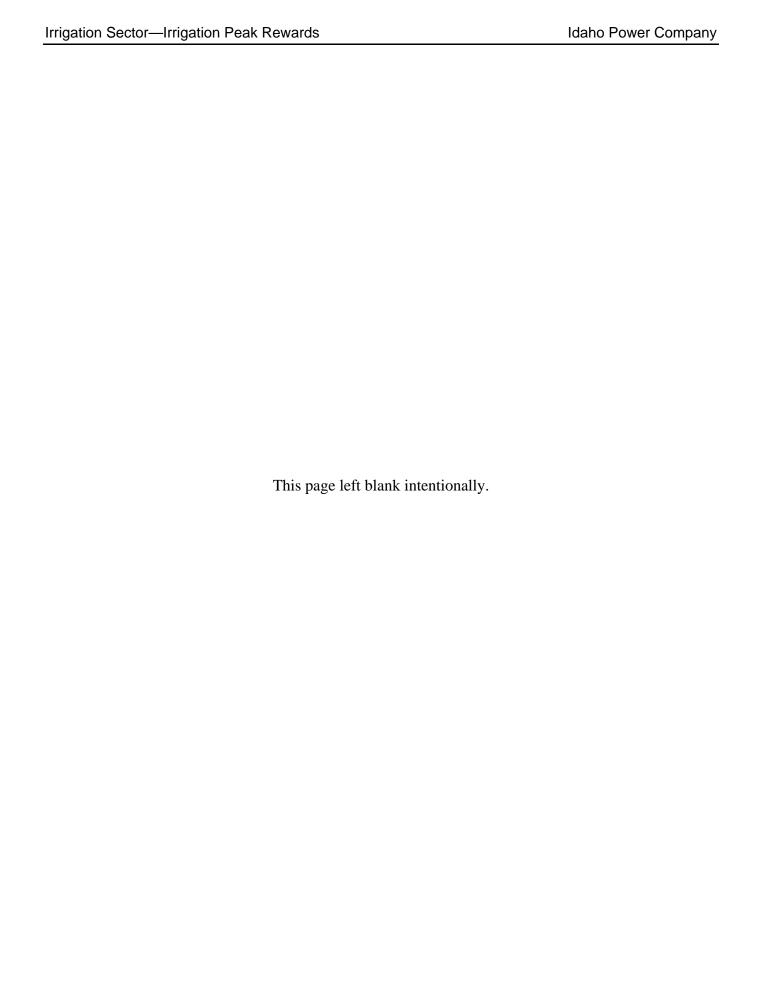
Recommendations for improvement include updating program documentation due to the high reliance on institutional knowledge of existing staff and ensuring adequate lead time to program, install, or fix timer devices before the program start date. A copy of the report is in *Supplement 2: Evaluation*.

In September 2011, Idaho Power contracted with ADM Associates, Inc., to conduct a customer survey regarding the effectiveness of the Irrigation Peak Rewards program as a demand response program. Survey results indicated the primary reason customers participate in the program is because of the financial incentive. The majority (81%) of the survey respondents have participated in the program for two or more summers. Almost all the respondents (90%) indicated the change in 2011 incentive levels did not influence their decision to participate in the program. Eighty-five percent of the respondents indicated they were "very satisfied" with the program overall, and 97 percent indicated they are "very likely" or "somewhat likely" to recommend the program to others. All respondents stated they are "very likely" or "somewhat likely" to participate in the program in 2012. The majority of customers are "very likely" or "somewhat likely" to participate in the program regardless of whether there are 1–2, 3–4, or 5–6 events called per summer. Respondents indicated a preference for the current incentive structure over suggested changes to either the incentive mechanism and/or the number of events or hours per event.

Idaho Power has also completed an internal impact evaluation of the Irrigation Peak Rewards program that covers both 2010 and 2011. A copy of this evaluation can be found in *Supplement 2: Evaluation*.

#### 2012 Strategies

The marketing plan for 2012 includes maintaining customer participation at its current level. Idaho Power will continue to educate customers regarding the program through workshops and agriculture shows. Further changes to the program may be proposed for the 2013 season based on the results of the 2011 survey, the need to keep customers aware of the program operations, and to maintain the integrity of equipment.



#### **MARKET TRANSFORMATION**

## **Northwest Energy Efficiency Alliance**

NEEA encourages and supports cost-effective market transformation efforts in Idaho, Oregon, Washington, and Montana. Through partnerships with local utilities, NEEA motivates the marketplace adoption of energy saving services and technologies and encourages regional education and marketing platforms. NEEA provides training and marketing resources across residential, commercial, and industrial sectors. Idaho Power accomplishes market transformation in its service area through membership and coordinated activities with NEEA. 2011 was the second year of NEEA's new, five-year plan.

NEEA performs several MPERs on various energy efficiency efforts each year. In addition to the MPERs, NEEA provides market research reports for energy efficiency initiatives throughout the Pacific Northwest. Each of the reports applicable to Idaho is included in the NEEA Market Effects Evaluations in *Supplement 2: Evaluation*.

In 2011, Idaho Power energy efficiency staff attended advisory meetings, served on sub-committees, and participated in NEEA-sponsored studies and research.

#### Commercial and Industrial NEEA Activities in Idaho

NEEA continued to provide support for commercial energy efficiency activities in Idaho in 2011. This included partial funding of the IDL in Boise and local BetterBricks<sup>®</sup> trainings and workshops. Idaho Power's commercial sector programs, Building Efficiency and Easy Upgrades, are designed to leverage NEEA, BetterBricks, and the IDL in Boise activities.

In the industrial sector, NEEA continued its efforts to embed Continuous Energy Improvement (CEI) in small- to medium-sized businesses defined as less than 250 employees per site. CEI is a multi-year strategic effort designed to improve energy efficiency in the industrial sector. Prior CEI efforts focused on two regional industries considered heavy energy users: 1) the food processing and 2) the pulp and paper industries. Participants achieve cost savings through the adoption of energy-efficient business practices. CEI provides expert support, resources, and services, supplying companies with the training and tools for making energy efficiency a core business value. This effort is supported by providing technical knowledge to organizations and to Idaho Power customers collaborating on energy efficiency implementation.

Technical training and education continue to be important in helping Idaho Power's industrial customers identify where they may have energy efficiency opportunities within their facilities. Eleven technical training classes were completed in 2011. Topics included compressed air, chilled water systems, pumping systems, variable frequency drives, and refrigeration. The level of attendance at these classes remains high with 228 customers attending the workshops.

#### Residential NEEA Activities in Idaho

NEEA supported a variety of residential programs and associated activities in Idaho Power's service area in 2011.

Among Idaho Power's programs, NEEA is directly involved in providing additional funding and operational support for ENERGY STAR<sup>®</sup> Homes Northwest, the DHP Pilot, and the consumer electronics Energy Forward campaign.

NEEA provides ENERGY STAR Homes Northwest builder and contractor training, manages the regional homes database, develops regional marketing campaigns, and coordinates the various building specifications and requirements with the EPA and utilities in the states of Idaho, Montana, Oregon, and Washington. Most of these activities are managed through a third-party implementer hired by NEEA.

NEEA held two sessions of ENERGY STAR Homes Northwest focus groups in Boise in February 2011 as part of a regional study to investigate buyer awareness and purchase preferences. NEEA also held an ENERGY STAR Stakeholder Roundtable discussion at Idaho Power in May. The roundtables included builders, raters, realtors, appraisers, local energy experts, and mortgage professionals.

In June, Idaho Power partnered with NEEA to promote the 2011 Welcome Home Campaign. This campaign featured homes built by local ENERGY STAR builders and invited consumers into these homes for tours. For \$400 per home, builders could enter as many homes in this campaign as they wished. Consumers were given a game card each time they entered a home and were asked to rate the home on various criteria. For each home they rated, they were entered into a regional sweepstakes for \$25,000. The grand prize was given away on October 10, 2011.

NEEA has coordinated the DHP Pilot research project since 2009, which includes data collection, design, results analysis, savings calculations, and ongoing promotional activities. Idaho Power participated in a one-day DHP workshop in November 2011 in Tacoma, Washington, sponsored by NEEA. The Idaho Power program specialist participated on the event committee targeted at installation contractors. The event increased awareness in the contractor community.

Idaho Power's partnership with NEEA's Consumer Electronics Energy Forward Campaign continued into 2011. The Energy Forward campaign highlighted the most energy-efficient televisions available. Retailers who represent 80 percent of televisions sold in the Northwest partnered with NEEA to promote Energy Forward televisions, including Best Buy, Costco, Kmart, Sam's Club, Sears, and Wal-Mart. At the start of 2011, super-efficient televisions that qualified for the Energy Forward sticker represented 12 percent of televisions sold in the Northwest by these participating retailers. NEEA forecasts that by the end of 2011, 35 to 40 percent of televisions sold in the region will be Energy Forward qualified.

NEEA developed and launched a number of marketing tactics, including the Big Picture Contest, weekly social-media content, and program highlight videos streaming within participating stores. The Big Picture Contest was a promotion in which people would send in clever photo captions to pictures for a 55-inch Samsung LED television grand prize. One Idaho Power customer won an honorable mention for the entry. NEEA provided weekly social media updates to utilities, which Idaho Power promoted by highlighting the Energy Forward campaign using the company's Facebook page. A video highlighting the Energy Forward campaign was displayed in many participating stores. NEEA representatives maintained retail partnerships by visiting each store at various times throughout the year, setting up point-of-purchase material, and educating the sales staff.

Idaho Power has also participated in NEEA's Residential Advisory Committee meetings and activities throughout 2011 and contributed to the design and launch of Conduit, a regional online community for energy efficiency program managers in the Pacific Northwest. The goal of Conduit is to expedite the delivery and adoption of energy efficiency programs and activities. NEEA launched the website in

May 2011. Conduit houses a library, discussion forums, and collaboration space. Similar to Facebook in features and benefits, Conduit is a space for energy efficiency professionals to congregate and share ideas, concerns, and questions. It is open to trade allies, state agencies, regulators, research institutions, and utility professionals. Additionally, three members of the residential programs team attended NEEA's annual conference, Connections Northwest, which provided updates on NEEA-sponsored programs and research as well as valuable networking opportunities with other utility program managers.

#### Other NEEA Activities in Idaho

Idaho Power's energy efficiency analysts participated in two committees to collect basic information on building stock and energy use of buildings throughout the Pacific Northwest. The results of the studies help form future regional energy planning efforts and are used to design energy efficiency programs. In 2011, NEEA moved forward with the Residential Building Stock Assessment (RBSA). With the RBSA, customers from all households in Washington, Oregon, Idaho, and parts of Montana were selected randomly to participate in a phone survey from April to May 2011. From those that participated in the phone survey, a subset of the homes was selected to participate in an on-site survey, and in some cases, a more in-depth energy review of the home. These onsite surveys were scheduled between June and December 2011. A final report will be available in 2012. While Idaho Power did not provide any customer information to NEEA for the study, Idaho Power participated in the monthly updates and provided feedback on the phone survey and on-site protocol. In addition to the RBSA, NEEA began work on the Commercial Building Stock Assessment (CBSA). The CBSA is still in the planning stages, and a work plan will be finalized and launched in 2012.

In 2011, NEEA provided over \$314,000 in support to the IDL in Boise, which provides energy consulting services to commercial customers throughout Idaho Power's service area.

Idaho Power's customer research and analysis leader is an active participant in NEEA's Cost-Effectiveness Advisory Committee. This committee meets three to four times a year to review NEEA cost-effectiveness models, assumptions, and, ultimately, energy-savings estimates. Idaho Power's energy efficiency analyst participates in NEEA's Northwest Research Group. This group meets throughout the year to catalogue and coordinate energy efficiency research projects regionally.

#### **NEEA Funding**

In 2011, Idaho Power began the second year of the 2010–2014 Regional Energy Efficiency Initiative Agreement with NEEA. Per this agreement, Idaho Power is committed to fund NEEA based on a quarterly estimate of expenses up to the five-year total direct funding amount of \$16.5 million in support of NEEA's implementation of market transformation programs in Idaho Power's service area. Of this amount in 2011, 100 percent was funded through the Idaho and Oregon Riders.

In 2011, Idaho Power paid \$3,108,393 to NEEA. The Idaho jurisdictional share of the payments was \$2,952,973, while \$155,420 was paid for the Oregon jurisdiction. Other expenses associated with NEEA activities, such as administration and travel, were paid by Idaho Power.

Preliminary estimates reported by NEEA indicate that Idaho Power's share of regional market transformation MWh savings for 2011 is 16,109 MWh, or 1.8 aMW. Idaho Power relies on NEEA to report the energy savings and other benefits of NEEA's regional portfolio of initiatives. For further information about NEEA, visit their website at www.nwalliance.org.

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#### **OTHER PROGRAMS AND ACTIVITIES**

## **Residential Energy Efficiency Education Initiative**

Idaho Power recognizes the value of general energy efficiency awareness and education in creating behavioral change and customer demand for, and satisfaction with, its programs. The Residential Energy Efficiency Education Initiative's goal is to promote energy efficiency to the residential sector. This goal is achieved by creating and delivering educational materials and programs that increase Idaho Power's energy efficiency program participation and result in energy efficient and conservation oriented behaviors and choices.

The Residential Energy Efficiency Education Initiative distributed energy efficiency messages through a variety of communication methods during 2011. Increased customer awareness of energy-saving ideas was accomplished via continued distribution of the 96-page book 30 Simple Things You Can Do To Save Energy, a joint publishing project between Idaho Power and The Earthworks Group. During the year, 9,293 English and 427 Spanish copies were distributed. In addition to being given directly to customers at community events, new channels of delivery were developed. Idaho Power's participating contractors for the Home Improvement Program, Energy House Calls, H&CE Program, and the Boise City Home Audit Project were invited to join Idaho Power in distributing this information to customers when other energy efficiency services were performed. Additionally, customers in Idaho Power's service area were able to download the book or make a direct request for a copy via the internet. Of the books distributed in 2011, 1,287 were mailed directly to customers at their request, including 1,218 sent to customers who contacted Idaho Power's Customer Service Center with questions about how to reduce energy use and 69 in response to direct requests received through Idaho Power's website. Idaho Power also mailed 1,363 copies of the informational brochure Practical Ways to Manage Your Electricity Bill to customers who called specifically with concerns about high bills.

In March, Idaho Power conducted its annual energy efficiency awareness campaign to educate employees about the company's energy efficiency programs and efforts. Activities during 2011 included weekly educational articles in employee internal publications, an e-news video about a new Leadership in Energy and Environmental Design LEED building in Pocatello, displays in the lobbies of company buildings, and a brown-bag presentation given by energy efficiency staff to 242 employees at 11 company locations.

The Residential Energy Efficiency Education Initiative took full responsibility for the content and production of this year's 2011 Summer Energy Efficiency Guide. The summer guide focused on ways to save money and reduce energy use. It addressed the purpose of energy efficiency programs and how they promote wise energy use and help meet future electricity demand. It suggested ways to stay cool while reducing energy use during peak demand and offered information about how to identify specific savings opportunities in individual customer homes. The publication was inserted into local Sunday newspapers delivered to 162,500 customers on June 26.

In addition to the 2011 Summer Energy Efficiency Guide, Idaho Power initiated the production of a Winter Energy Efficiency Guide designed specifically around content applicable for homes with electric heat. The first winter guide was prepared during 2011 and was distributed to 187,114 customers with their newspapers in January 2012.

The Kill A Watt<sup>™</sup> Meter partnership with the Idaho Commission for Libraries continued through 2011, with the formal reporting period ending in June. During the first year of the program, the kits were

checked out 1,139 times through Idaho libraries. Of these, 909, or 80 percent of the total circulation, took place within Idaho Power's service area in spite of the fact only 60 percent of the libraries fall within Idaho Power geographic boundaries. Eight of the top ten highest circulating libraries service Idaho Power customers. Although difficult to quantify the energy savings from this kind of a program, 93 percent of the libraries responded that they were satisfied or very satisfied with the program. Some comments were "it served the purpose for which it was designed," "very useful in learning energy usage of different appliances," and "it helped determine which electronics are high energy consumers."

In 2011, Idaho Power increased activity in social media, promoting events via Facebook and Twitter in the days just prior to events. The company also highlighted efficiency efforts, incentives, and rebates through all Idaho Power-branded channels, which included Facebook, Twitter, YouTube, and a blog at www.GetPluggedIn.com. Idaho Power used Facebook's "Ask a Question" tool to query customers on topics such as thermostat settings and knowledge of programs. The company is currently in the planning stages of creating Facebook tabs for specific initiatives, including energy efficiency. At the conclusion of 2011, Idaho Power had 1,926 Facebook fans, 187 Twitter followers, and 161 views of its YouTube video about DHPs.

Building new partnerships continued to be an important aspect of finding fresh venues for educational opportunities. The company participated on the Idaho Environmental Literacy Plan Advisory Committee, working with the Idaho Environmental Education Association to draft and propose Idaho's first Environmental Literacy Plan. Idaho Power also served on the first Treasure Valley Idaho Science, Technology, Engineering and Mathematics (iSTEM) Steering Committee to bring a teacher training institute to western Idaho. This resulted in a partnership with the Idaho National Laboratory (INL) and Intermountain Gas to sponsor a three-day hands-on energy in-service training for 15 local teachers.

In September, Idaho Power partnered with the IDL in Boise to offer the first residential-focused training seminar in their BetterBricks® series. Thirty-three participants attended the session titled "The Passive House." Idaho Power co-sponsored two eight-session workshops in the Boise area entitled "Sustainable Energy Sustainable Homes." The workshops were facilitated by local trade experts, and Idaho Power provided marketing support and expertise specific to Idaho Power programs. Sixty-two individuals participated in these workshops in 2011, with an average of 12 participants per session. Idaho Power worked with the Snake River Alliance (SRA) to present three energy efficiency workshops for the city and county officials of Valley, Twin Falls and Elmore counties. The company partnered with the City of Hailey on the educational portion of a successful grant proposal that will result in 12 energy efficiency related workshops over the course of the next two years.

In addition to these activities, Idaho Power continued sponsorship of the fourth annual Idaho Green Expo in May. As part of Idaho Power's commitment to the Expo, the company distributed 5,000 reusable shopping bags with the message "Reduce Your Use for Today and the Next Generation" to the more than 7,500 people who attended the 2011 Expo. Participants who visited the booth were encouraged to sign up for Account Manager while there. Idaho Power employees showed interested customers how to view near real-time data of the energy use in their homes. In addition to sharing this message at the booth, Idaho Power sponsored a broad educational activity using text messaging to engage attendees and their families for the length of their Expo visit. There were 307 individuals who played the educational game, texting 3,350 correct answers to the specified telephone number. On average, these 307 players texted 11 correct answers each and thus received 22 pieces of valuable energy efficiency information during their Expo visit. Several hundred additional instant prizes were given as rewards for non-texting participants who played the game or stopped by the booth for a visit.

Idaho Power presented two educational workshops at the Green Expo event: 1) Simple Changes Make Cents: Tips, Tricks and Tools to Reduce Electricity; and 2) Get Ready, Get Set, Go: Powering Homes with Alternative Energy. Idaho Power also participated on a panel discussion, sharing the results of the SEE Program. The company provided a PowerPoint slide deck and other signage to the Idaho Energy Collaborative for use in the Green Expo's energy lobby display. This information focused on the use of Smart Meter data, Energy Tools, and Idaho Power's Electricity Supply Sources. Idaho Power partnered with GreenWorks Idaho again to develop and administer an exit survey, with 402 surveys completed. The Green Expo participant profiles will be used to further improve messaging and goals, and an understanding of Idaho Power's return-on-investment for future sponsorship of this event. It will also be used for tracking energy efficiency related trends among Expo attendees. Twenty-one percent of this year's survey participants reported having received an energy efficiency incentive payment from Idaho Power.

In September 2011, Idaho Power participated in the St. Luke's Women's Show for the fourth consecutive year. The event continues to be important due to the size of the audience and because its demographic component aligns with Idaho Power's residential energy efficiency target audience. In 2011, Idaho Power again focused on drawing participants into the booth to complete an in-depth survey to gather participant profiles and key market data. The company collected 777 completed surveys, exceeding the target of 400.

Although the respondents are not a random sample, key findings from the Women's Show survey respondents indicated Idaho Power's ENERGY STAR® Homes Northwest was the most recognized energy efficiency program, with most respondents (75%) indicating they were "aware of" the program. The Energy House Calls was the least recognized program, with a majority of respondents (61%) indicating they "never heard of" the program. The program participation rate varied among respondents. A/C Cool Credit had the highest participation rate (22%) among respondents, followed closely by the Home Products Program (20%).

Of the Women's Show participants that completed the survey, 79 percent were homeowners, 79 percent was the person that pays the electricity bill in his/her home, 33 percent act as the primary decision maker for home improvement projects, and 57 percent act as co-decision makers. Fifty-seven percent of the respondents had been to Idaho Power's website, with 30 percent specifically seeking energy efficiency information and 43 percent looking for billing or usage information. Lastly, 366 respondents shared their email address and indicated they would like to be contacted about time-variant pricing (TVP) when it becomes available in the future.

Idaho Power further increased its energy efficiency presence in the community by providing program information at 126 special events. As part of process improvement accomplishments, the Outreach Tracking System, the database that records educational and outreach activities, was augmented to include additional metrics and automatic work flow capabilities. This enhancement will ensure that key staff members are appropriately engaged in the decision-making process and have the data needed to ensure that limited resources are used to produce the best return on the company's energy efficiency efforts.

Field staff throughout Idaho Power's service area performed dozens of energy efficiency presentations. The Customer Relations and Energy Efficiency department provided 24 presentations on Idaho Power's energy efficiency programs and energy saving ideas to businesses, schools, and community organizations. In 2011, the Community Education team provided 109 presentations on *The Power to Make a Difference* to 3,363 people. More specifically, 101 of these presentations were to students and

eight of them were community presentations. The breakdown of attendance was 2,953 students and 410 community members.

The Residential Energy Efficiency Education Initiative continued to provide energy efficiency tips in response to media inquiries for Boise Weekly's Greenpage Monthly and for various Idaho Power publications, such as News Scans, the Green Power Newsletter, the A/C Cool Credit Newsletter, Customer Connection, and Idaho Power's Facebook page.

Enhancements to Idaho Power's website were undertaken in 2011 for the purpose of providing customized energy education and energy efficiency recommendations. The new Energy Use Advisory Tool (EUAT) that will be implemented early in 2012 will educate customers and encourage behavioral change by linking specific energy-related behaviors and choices and quantifying the monetary change that may be expected.

During 2012, the initiative's goals are to increase program participation and promote education and energy-saving ideas that result in energy-efficient and conservation-oriented behaviors and choices. Plans for 2012 include working with Idaho Power program specialists, partners, and participating contractors to influence behavioral change, particularly when energy efficiency upgrades are made. Energy efficiency educational materials will be evaluated and either developed or revised, as necessary, to increase customer reach, improve distribution, and enhance presentation opportunities. Idaho Power will actively evaluate existing data to determine how future research and data collection may be improved to further the Residential Energy Efficiency Education Initiatives goals.

## Easy Savings® Program

As a result of IPCU Case No. IPC-E-08-10 under Order Nos. 30722 and 30754, Idaho Power committed to fund energy efficiency education for customers receiving energy assistance through the federal LIHEAP and provides \$125,000 to be paid to CAP agencies in the Idaho Power service area on a prorated basis. In addition, this order specified that educational information be provided by Idaho Power for families who heat their homes with electricity provided by Idaho Power. The primary target for the program is households applying for energy assistance who do not generally qualify for weatherization prioritization. Households that are targeted through the Easy Savings Program generally do not include the elderly, disabled individuals, or families with children that are already prioritized for other Idaho Power weatherization services.

The Easy Savings Program provides a kit containing low-cost/no-cost energy saving items.

Kit items include the following items:

- CFLs
- Hot-water temperature card and refrigerator thermometer
- Rope caulk and outlet draft stoppers
- Kitchen faucet aerator and high-efficiency showerhead
- LED nightlight and reminder magnets for the laundry
- Quick Start Guide to installation
- Survey inquiring about installation experience and actions taken to reduce energy use

All educational materials are printed in English and Spanish. Returned surveys are used to track the effectiveness of the program. Tracking is done via a kit/survey unique numbering system.

Three main desired outcomes of the Easy Savings Program are to educate recipients about saving energy in their homes in order to reduce energy usage, to allow hands-on experience while installing a low-cost measure, and to reduce the energy burden for energy assistance/LIHEAP applicants.

Historically, kits are ordered from the vendor Resource Action Programs (RAP) before the end of the previous year to allow time for the kits to be assembled and shipped to CAPAI and the individual agencies before January of the current program year. For example, in October 2009, payments were sent to the agencies for kits that would be distributed during the 2010 energy assistance season, which typically ends around May. In October 2010, Idaho Power sent checks to agencies for kits that would be distributed through the 2011 energy assistance season ending in May 2011. This timeframe allows more time for the agencies to distribute kits to customers who are already at the CAP agency attending their energy assistance meetings. The energy assistance program year begins in November every year and, dependent on funding, typically extends to May of the following year.

For the 2011 program year, payments totaling \$125,000 were sent by Idaho Power to CAP agency executive directors in each region in October 2010. Each agency used 30 percent of the agency's \$125,000 to cover expenses for administering the program at their agency. An order for 2,127 kits was placed in November 2010. Kits were shipped from the vendor and received at CAPAI prior to January 2011 for distribution to customers throughout the rest of the 2011 energy assistance program season.

Between January 1, 2011, and December 31, 2011, 1,460 kits were distributed to Idaho Power customers approved to receive energy assistance benefits on their Idaho Power bills. According to CAPAI, the additional 667 kits will be distributed during the first quarter of 2012.

A participant survey inquiring about installation experiences and actions taken to reduce energy use was included in the kits during 2011. Tracking was done via a kit/survey numbering system. Returned surveys were used to track the educational impact of the program.

Of the 1,460 surveys distributed, 116 completed surveys were received back from customers describing their experience in installing kit items in their homes. Nine questions referred to the customer taking a suggested action to reduce energy use, and other questions confirmed installation of kit items.

Of the 116 families that responded, 110 families reported that they have or will lower their heat during the day and at night; 102, or over 88 percent, reported installing both CFLs provided; and 106 participants reported installing the high-efficiency showerhead.

Overall, survey results show that over 81 percent of the customers who received the kits and returned a survey installed five or more kit items. Of the 116 families returning surveys, 98 reported learning a lot about saving energy and money in their home. Copies of the survey and survey results can be found in *Supplement 2: Evaluation*.

Gift certificates valued at \$100 each were provided by CAPAI to encourage survey completion. A drawing from all returned surveys was held, and five families won a \$100 gift certificate.

Typically, funds for 2012 would have been distributed to the CAP agencies in late 2011. However, as of the printing of this report, Idaho Power was waiting for CAPAI to provide their proposal for changes to the program. Upon receipt review, Idaho Power will remit checks to the agencies.

#### **Commercial Education Initiative**

Since 2008, the Commercial Education Initiative has informed and educated commercial customers regarding energy efficiency, increased awareness of and participation in existing commercial energy efficiency and demand response programs, and enhanced customer satisfaction regarding the company's energy efficiency initiatives. A major strength of the initiative is the emphasis on building strategic relationships. The program specialist works closely with Idaho Power CRs assigned to commercial market segments to capitalize on their established relationships with customers.

Additionally, the program specialist oversees the distribution of informational materials and works directly with trade allies and other market players who, in turn, support and promote Idaho Power's energy efficiency programs. Routinely, the program specialist conducts individual site visits, customizing energy efficiency recommendations for individual customers. These site visits serve as training opportunities for field staff, raising their knowledge for future site visits.

In 2011, Idaho Power carried out its plan to capitalize on effective customer projects by posting on Idaho Power's website nine *Success Stories* highlighting customers' 2011 energy efficiency projects. Additionally, two market segment tip sheets were created: *Energy Efficiency Tips for Schools* and *Energy Efficiency Tips for Convenience Stores*, offering efficiency improvement information tailored to each unique market.

By year-end, the Commercial Education Initiative staff performed a total of 125 walk-through evaluations, contractor visits, and presentations to municipalities and professional groups. In collaboration with the IDL in Boise, Idaho Power provided input and funding for 58 outreach presentations and training sessions that were held across Idaho Power's service area.

The company also provides efficiency information and assistance to smaller communities through a collaborative effort with the SRA. Presentations were provided in Twin Falls and in Mountain Home. Attendance at these presentations was less than expected; however, Idaho Power believes customer interaction and efficiency projects could still be attributed to these presentations.

The results of the process evaluation of the Commercial Education Initiative conducted in 2010 by The Cadmus Group, Inc., became available in 2011. This evaluation included a program data review, program logic model, internal customer survey evaluation, industry best practices comparison, conclusions, and recommendations. Program changes brought about through recommendations include an intensified effort to work with contractors and vendors. The return on contractor and vendor support was observed and tracked through submitted efficiency project applications. An example of positive results from this effort was the increase in energy management control system projects that were completed in 2011. In 2011, a total of 141 energy management control systems and optimization projects were completed compared with 18 projects completed in 2010. Another ongoing emphasis is informing customers that the assistance they receive is through Idaho Power's Commercial Education Initiative. Although the service was always appreciated by customers and contractors, those benefitting did not always realize the Commercial Education Initiative is its own unique offering.

In 2011, the Commercial Education Initiative sought further opportunities to assist small communities interested in learning more about energy efficiency. The initiative continued to conduct site visits,

used the Equipment Efficiency Specification Sheets, distributed target market information tip sheets, and provided presentations at professional meetings. Idaho Power offered assistance to colleges providing energy related technical education. Continued support of Boise State University's Small Business Development Center was demonstrated via the initiative teaching segments on performing energy evaluations for small businesses.

Plans for 2012 include providing documents that allow customers to perform a cursory evaluation of their own facilities to identify energy efficiency opportunities and to determine if a more in-depth evaluation or audit is needed. The company is producing materials on energy topics that can be offered to chambers of commerce in Idaho Power's service area. Customer support via facility walk-throughs and site-specific efficiency guidance will continue.

#### **Local Energy Efficiency Funds**

The purpose of LEEF is to provide modest funding for short-term projects and activities that do not fit within other categories of energy efficiency programs but that still provide energy savings or a defined benefit to the promotion of energy-efficient behaviors or activities.

In 2011, Idaho Power sponsored one LEEF project, a solar thermal hot-water system in a residence near Weiser. This system uses 20 vacuum tubes that collect solar energy and use that energy to pre-heat a hot-water storage tank to reduce the load on the customer's existing electric water heater. Based on previous annual usage and projected solar production, the B/C analysis estimated an annual energy savings of 2,028 kWh. The system was installed in May 2011. Monitoring equipment was put in to record actual solar production to more accurately estimate energy savings for potential future projects. Idaho Power's incentive on this system was \$1,026.

#### **Students for Energy Efficiency**

Idaho Power created the SEE program in 2009. Idaho students participated in energy assessments of their schools and homes using math and science skills to evaluate and provide recommendations regarding energy improvements and energy efficiency. At numerous presentations, including EEAG, this program has received favorable feedback and comments.

There were two primary initiatives in 2011. The first was a program for high school students. The project was designed as a learning lab where students gain a better understanding of energy, how it is measured, and how to use it more efficiently. The second initiative was an elementary program focused on sixth-grade students. The students received a tool kit and exercises that the students work on in their classroom, as well as take-home exercises to work on with their families. During 2011, over 300 students participated in the high school program, and over 9,000 students participated in the elementary program.

The development of the SEE program followed IPUC Order No. 30760, dated March 27, 2009, directing the use of a portion of the proceeds from the sulfur dioxide (SO<sub>2</sub>) emissions credits sold by Idaho Power. The order called for the delivery of the energy education program for two years and a report summarizing the results. Idaho Power produced the final report and filed with the IPUC during summer 2011. For more details on the SEE program, view the most recent regulatory report, Idaho Power's  $SO_2$  Emissions Allowance Energy Education Program report, August 2011, located in Supplement 2: Evaluation.

#### **Residential Economizer Project Study**

In 2011, a Residential Economizer Project Study was initiated involving the installation of residential economizers into residential houses. These systems draw cool, outside evening air into the A/C systems within houses. Their goal is to reduce the summer cooling energy needed to cool the house. The reduction of cooling energy stems from the reduced run time of the air conditioner compressor and compressor fan. Data collection devices were used to capture energy and temperature values. This data was collected during summer 2011. It will be analyzed by Idaho Power and third parties to determine potential energy savings. The final report is included in *Supplement 2: Evaluation*.

NEEA was an integral resource in the study. It coordinated a baseline A/C energy study report. NEEA also coordinated a feedback survey report involving phone conversations with the installing contractors and residential participants. An additional market assessment is to be performed by NEEA to assess the value of residential economizer systems in the northwestern states.

Data logging equipment installation, field monitoring, and the energy analysis report is being performed by the IDL in Boise.

In 2012, additional houses will be fitted with residential economizers and data logging equipment in order to gain additional data during the summer period. A portion of the houses used during 2011 will again be data logged in 2012. Ongoing progress was reported to EEAG in February, June, and October 2011. At the end of 2011, it was determined by Idaho Power, and agreed on by EEAG, that data logging during summer 2012 would provide a more accurate indication of energy savings.

#### **Regional Technical Forum**

The BPA and the Northwest Power and Conservation Council (NPCC) established the RTF in 1999. Since 2004, Idaho Power has supported the RTF by providing annual financial support, regularly attending monthly meetings, and participating on various sub-committees.

The forum's purpose is to advise the BPA, the NPCC, the region's utilities, and organizations, including NEEA and the ETO, on technical matters related to energy efficiency and renewable-resources development. Activities include the development of standardized protocols for verifying and evaluating energy savings and tracking conservation and renewable resource goals. Providing feedback and suggestions for improving the effectiveness of regional energy efficiency and renewable-resource development programs are additional activities of the RTF. The RTF also recommends a list of eligible conservation measures and the estimated savings associated with those measures. Idaho Power uses the information provided by the RTF when conducting research and analysis on new and current measures. The RTF meets 10 to 12 times annually to review and provide comments on analyses and other materials prepared by the NPCC, BPA staff, and RTF contractors. Idaho Power uses the savings estimate and calculations provided by the RTF when applicable to the Idaho climate zones and load characteristics. In 2011, Idaho Power staff participated in all of the RTF's meetings and was involved in various sub-committees.

Idaho Power has been involved in the ongoing Commercial Rooftop Unit Work Group (RTUG) subcommittee since 2007. A commercial program specialist actively participates in the RTUG subcommittee meetings. Currently, nine sites in Idaho Power's service area have been metered since 2008 and these sites are part of the nation's largest publicly available rooftop unit data set. The RTUG is presently developing protocol for the evaluation of rooftop unit efficiency. Protocol is for the estimation

of kWh for commercial packaged rooftop units optimized for energy-efficient performance by improvements, such as the addition of economizers or changes to the control of these units.

In 2011, the H&CE Program specialist participated on the RTF subcommittee for a ground-source heat pump project. The goal of the RTF subcommittee was to assist in, and approve of, an energy efficiency report for a potential ground-source heat pump study that would update the measure definitions, savings, costs, and cost-effectiveness values for the RTF's deemed measures for single-family and manufactured homes.

Idaho Power's energy efficiency evaluator is participating on the Custom Protocol and the Program Impact Evaluation sub-committees. An Idaho Power Custom Efficiency program specialist served on the RTF Grocery Refrigeration Subcommittee during 2011. This included a review of grocery measure calculation techniques and guidance on the development of a simplified energy-savings calculator for the grocery industry.

Beginning in 2011, a representative from Idaho Power was a member of the newly formed RTF Policy Advisory Committee. This committee is responsible for providing policy recommendations on how best to meet the needs of the stakeholders while maintaining the independent technical model of the RTF.

## **Boise City Home Audit Project**

The City of Boise received ARRA funding from the US DOE Energy Efficiency Conservation Block Grant (EECBG). Idaho Power partnered with the City to create a limited-term, residential energy audit project that included the installation of some low-cost energy-saving measures for 650 homes and the identification of larger efficiency needs. Homeowners were provided information on programs that could assist them with the costs of implementing the additional measures, including information on the City of Boise's Home Improvement Loan Program.

Idaho Power designed and managed the project with City of Boise approval and contracted with HPSs to perform the energy audits and installation of measures. The energy audit included a blower door test, a visual inspection of the crawl space and attic, and a collection of data regarding the home and its energy use. Potential low-cost energy-saving measures that could be installed in each home included limited sealing of air leaks, such as mastic around the furnace unit; installing CFLs; insulating water pipes that are three feet or less between the water heater and the structure; installing water heater blankets; and installing a low-flow showerhead. The visit included instructing customers on a variety of items, including replacement of their furnace filter and how to lower the temperature on their water heater.

Participating customers paid \$49 for the audit and installation of measures, with the remaining cost covered by the EECBG funds. Energy audits of this type normally cost \$300 or more, not including the measures, materials, and labor. The cost of the materials potentially installed at each home was approximately \$100.

The target audience for this project was Boise residential customers living in single-family, site-built homes under 3,000 ft<sup>2</sup>. The homes had to be owner-occupied year-round. It was necessary for the customer to have lived in the home for at least 12 months, allowing retrieval of a full year of historical data prior to the installation of any measures related to this project. In addition, it was desirable that the customer planned to stay in the home for the next year or two. This would allow post-installation data collection based on the same family/electric use. The target was for 25 percent of participating homes to be all-electric.

Participants were recruited through direct-mail. Eleven small batches of recruitment letters were mailed for a total of 17,300 letters, with a response rate of 4.4 percent. Customers who were interested in participating in the project were directed to a website to complete an application. Those who either did not have internet access or were uncomfortable with filling out the application online were able to call and have their application taken over the phone. Of the 765 applications received, 76 (10%) were taken over the phone.

Participants were selected on a first-come, first-served basis. Applications received beyond the allotment were placed on a waitlist. A few participants were enrolled from the waitlist.

Three energy audit companies were selected, with a total of five HPSs. Audits were randomly and evenly distributed to the three companies. Some challenges arose with one company, and that company's contract was not renewed. The company whose contract was not renewed completed 132 audits. The other two companies completed 261 and 257 audits, respectively.

Of the 650 audited homes, 511 homes (79%) were heated by gas, one home was heated by oil, and 138 (21%) were heated by electricity. The chart below compares the participants in this project to the percentage of homes per zip code that were heated using electricity, gas, or another fuel.<sup>3</sup>

Table 12. Percentage of potential and participating homes by zip code and heating source

	Elec	Electric		Gas		er
Zip Code	% per CityData	% in project	% per CityData	% in project	% per CityData	% in project
83702	30%	19%	64%	80%	3%	1%
83703	25%	22%	70%	78%	2%	0%
83704	27%	30%	70%	70%	1%	0%
83705	32%	23%	64%	77%	2%	0%
83706	35%	20%	60%	80%	2%	0%
83709	20%	18%	76%	82%	2%	0%
83712	29%	23%	60%	77%	4%	0%
83713	18%	21%	80%	79%	1%	0%
83714	39%	18%	59%	82%	0%	0%
83716	25%	14%	61%	86%	1%	0%

The average age of the homes in this project was 28.8 years old.

<sup>&</sup>lt;sup>3</sup> www.City-Data.com

Table 13. Number of participating homes by year built

Year Built	Count
Prior to 1900–1910	20
1911–1920	15
1921–1930	8
1931–1940	16
1941–1950	41
1951–1960	61
1961–1970	49
1971–1980	216
1981–1990	114
1991–2000	80
2001–2010 (2008)	30

Home size ranged from 728 ft<sup>2</sup> to 3,328 ft<sup>2</sup>. The project's average home size was 1,840 ft<sup>2</sup>. Although the recommended home size was 3,000 ft<sup>2</sup>., a few homes over this size were completed.

Table 14. Number of participating homes by size

Home Size	Count
700–1000 ft <sup>2</sup>	27
1001–1500 ft <sup>2</sup>	173
1501–2000 ft <sup>2</sup>	202
2001–2500 ft <sup>2</sup>	152
2501–3000 ft <sup>2</sup>	91
3001–3328 ft <sup>2</sup>	5

Homes were located throughout the Boise city limits, with larger amounts of recruitment letters mailed in those zip codes reported to have a higher percentage of electrically heated homes.<sup>4</sup>

Table 15. Number of participating homes by zip code and heating source

Zip Code	Electric	Gas	Oil	Total
83702	16	66	1	83
83703	8	29	0	37
83704	30	71	0	101
83705	13	44	0	57
83706	27	109	0	136
83709	13	59	0	72
83712	10	34	0	44
83713	13	50	0	63
83714	5	23	0	28
83716	4	25	0	29

<sup>&</sup>lt;sup>4</sup> www.City-Data.com

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When performing an audit, the HPS determined which available measures were appropriate for the home, and, if the homeowner approved, those measures were installed. Below is the quantity of items installed.

Table 16. Measures installed in participating homes by heat source

	Quantity	Gas Home	Electric Home
CFLs	7,144		
Water heater blankets		130	122
Pipe insulation		236	111
Low-flow showerhead		236	60
Mastic		244	58

Once an audit was completed, the information obtained by the auditor was entered into a database. A personalized report was created and mailed to each participant detailing what was found at the home, what measures were installed, and further energy efficiency recommendations.

There was an ongoing QA process to the Boise City Home Audit Project. Audits from all HPSs were randomly selected to have a third-party QA review. During the QA review, site visits included a visual review of information reported by the auditing HPS, as well as a blower door test to verify previous results.

After all the HPS had completed some audits, a survey was emailed to participants to obtain feedback on their experience with applying for the project, scheduling the audit, and the audit itself, with an emphasis on the service received from the HPS. Information from this survey, along with information from the QA process and random, outbound customer service calls helped determine the need to not renew the contract with one of the three auditing companies. The remaining jobs were divided equally among the two remaining auditing companies.

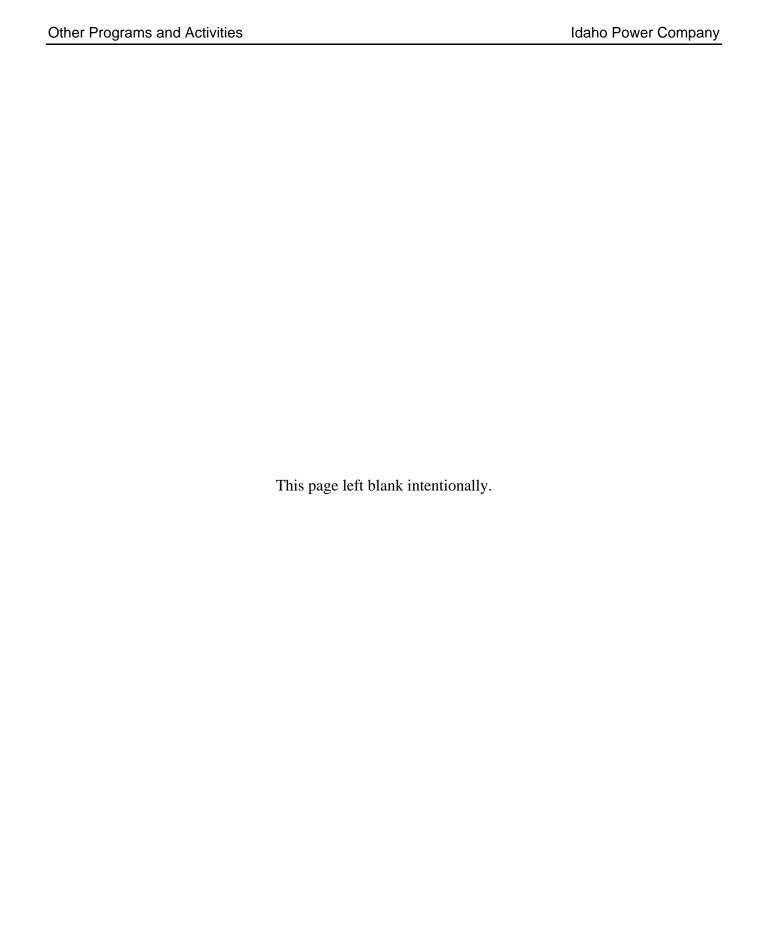
A second survey was sent after the participant received their personalized report and allowed time for participant action regarding suggested energy efficiency actions. The survey gathered data on immediate actions the participant initiated following the audit and short-term actions they planned to take at a future date. It also inquired about reasons for inaction, such as expense or difficulty finding a contractor. Overall results of the two surveys are included in *Supplement 2: Evaluation*.

In 2012, Idaho Power plans to gather a year's worth of post-audit data to analyze and compare. Idaho Power will be working with the IDL in Boise to undertake this analysis. The analysis will provide 1) energy impact estimates (kW, kWh, and one million British thermal unit [MBtu]) attributed to the direct installed measures from this project, 2) credible and reliable energy impact estimates attributed to additional energy efficiency measures implemented as a result of recommendations made during the initial home energy audit, 3) analysis and recommendations relating to the potential for introducing a similar program to the larger residential market within the Idaho Power service area, and 4) a final report, including energy impact estimates and observations.

# J.D. Power and Associates *Smart Energy Consumer Behavioral Segmentation Study*

Late fall 2011, Idaho Power subscribed to the J.D. Power and Associates *Smart Energy Consumer Behavioral Segmentation Study*. This syndicated study was conducted with over 38,000 households

nationally, representing 75 utility operating companies. The study was conducted using online panelists and was fielded in July and August 2011. The purpose of this study was to: 1) better understand what motivates consumers to engage with smart energy products and services; 2) understand the actions that different consumers will take to change energy consumption; 3) identify demographic segments that will help understand customers' needs and preferences; 4) begin to develop a knowledge of the differences and similarities between segments on a national, regional, and local level; 5) begin to develop a knowledge base for benchmarking and best practices; and 6) develop groundwork for testing consumer education messaging and communication channel preferences. Preliminary results of this study identified six unique behavioral segments on a national, regional, and local level. Further analysis and results of the study will be explored in 2012.



#### **REGULATORY INITIATIVES**

Idaho Power believes there are three essential components of an effective regulatory model for DSM: 1) the timely recovery of DSM program costs, 2) the removal of financial disincentives, and 3) the availability of financial incentives.

Since 2002, Idaho Power has recovered its DSM program costs through the Rider with the intended result of providing more timely recovery of DSM costs. To address the removal of financial disincentives, Idaho Power tested the effects of an FCA mechanism in a five-year pilot initiative. The FCA pilot just completed year five. As part of the 2011 general rate case, IPC-E-11-08, Idaho Power requested that the FCA become permanent. The Commission decided that the FCA should be addressed in a separate case. On October 19, 2011, the company filed Case No. IPC-E-11-19 with the IPUC. The case requests to convert the FCA to an ongoing and permanent rate schedule.

On October 22, 2010, Idaho Power filed Case No. IPC-E-10-27 with the IPUC requesting authorization to implement a DSR business model that would 1) move demand response incentive payments into the PCA on a prospective basis beginning June 1, 2011; 2) establish a regulatory asset for Custom Efficiency program incentive costs beginning January 1, 2011; and 3) change the carrying charge on the Idaho Rider from the customer deposit rate to the company's authorized rate of return. On April 1, 2011, the IPUC issued Order No. 32217, which authorized recovery of \$10 million of the deferral balance in the PCA for 2011, effective June 1, 2011, through May 31, 2012. The IPUC issued Order No. 32245 on May 17, 2011, allowing Idaho Power to account for incentives paid through the Custom Efficiency program as a regulatory asset beginning January 1, 2012. On December 30, 2011, the IPUC issued Order No. 32426 that approved General Rate Case No. IPC-E-11-08, including \$11.3 million of demand response incentives as part of base rates effective January 1, 2012. These mechanisms are discussed in more detail below.

## **Fixed-Cost Adjustment Pilot**

Under the FCA, rates are annually adjusted up or down to recover or refund the difference between the fixed costs authorized by the IPUC and the fixed costs Idaho Power actually received the previous year through energy sales. This mechanism removes the financial disincentive that exists when Idaho Power invests in energy efficiency and demand response resources. The FCA Pilot is limited to the residential and small commercial classes in recognition of the fact that, for these customers, a high percentage of fixed costs are recovered through their energy charges.

During the four-year period in which the FCA, Schedule 54, was in effect, Idaho Power made strong progress toward improving and enhancing its efforts to promote energy efficiency and DSM activities. The company increased the number of energy efficiency and demand response programs it offers and substantially increased both its investment in DSM activities and the MWh savings obtained through these activities. Results from the first four years of the pilot indicated that the true-up mechanism was working as intended.

On May 31, 2011, the IPUC issued Order No. 32251 approving the company's request to implement FCA rates for fixed-cost deferrals in 2010. Beginning June 1, 2011, the company implemented an overall rate adjustment of 2.4 percent to residential and small general service customers to collect a combined \$9.3 million in under-collected fixed costs. Residential customers experienced a rate increase of 0.1801 cents/kWh, while small general service customers experienced an increase of

0.2273 cents/kWh. The rate adjustments will result in a collection of an additional \$3 million over the then current billed amounts and will be in place until May 31, 2012.

#### **Demand-Side Resource Business Model Filing**

On October 22, 2010, Idaho Power filed Case No. IPC-E-10-27 with the IPUC requesting authorization to implement a DSR business model that would 1) move demand response incentive payments out of the Idaho Rider into the PCA on a prospective basis beginning June 1, 2011, which would then be subject to a true-up under the PCA mechanism; 2) establish a regulatory asset for Custom Efficiency program incentive costs beginning January 1, 2011; and 3) change the carrying charge on the Idaho Rider from the customer deposit rate to the company's authorized rate of return. Idaho Power requested an order by March 15, 2011.

On March 3, 2011, Idaho Power filed testimony in support of a settlement Stipulation in this case. Terms of the Stipulation included moving demand response program incentives associated with the A/C Cool Credit program, the Irrigation Peak Rewards program, and the FlexPeak Management program to the PCA on a prospective basis beginning June 1, 2011. The parties agreed that incentive payments of the Custom Efficiency program would be capitalized as a regulatory asset beginning January 1, 2011, with a carrying charge equal to the current IPUC authorized rate of return. Once placed in rates, this regulatory asset would be amortized over seven years and earn the then-current, commission-approved authorized rate of return. The parties also agreed that the Idaho Rider carrying charge would remain at the customer deposit rate. The parties signing the Stipulation were Idaho Power, IPUC staff, the Idaho Conservation League (ICL), Northwest Energy Coalition, SRA, and CAPAI. The Idaho Irrigation Pumpers Association, Inc., did not sign the Stipulation but did not oppose it. The industrial customers of Idaho Power did not sign the Stipulation and filed testimony in opposition to the Stipulation.

On April 1, 2011, the IPUC issued Order No. 32217, which did not approve the Stipulation filed in Case No. IPC-E-10-27. While denying the Stipulation, the IPUC discussion in Order No. 32217 did state that the IPUC recognized and appreciated Idaho Power's commitment in recent years to improve its DSM programs and recognized the fact that DSM expenditures have outpaced Rider funds. The IPUC stated that the funding adjustments proposed by the company ultimately may be appropriate to ensure DSM programs are adequately funded and recovered in a timely manner; however, the specific proposals raised issues and concerns that are more appropriately vetted in a rate case. The IPUC shared the parties' concern over the amount of the Rider balance and, to address the problem, authorized recovery of \$10 million of the deferral balance in the PCA for 2011, effective June 1, 2011, through May 31, 2012. The IPUC also ordered that the recovery of these expenditures should not result in a shift of costs among customer classes, so it required a provision to allocate that amount to each customer class based on the amount that would have been recovered from each class through the Rider. The order did not approve a change to the energy efficiency Rider balance carrying charge.

The IPUC issued Order No. 32245 on May 17, 2011, to clarify the preceding Order No. 32217. In Order No. 32245, the IPUC decided to allow Idaho Power to account for incentives paid through the Custom Efficiency program as a regulatory asset beginning January 1, 2011; however, the amortization period will be determined later by the commission.

On June 1, 2011, Idaho Power filed General Rate Case No. IPC-E-11-08 with the IPUC that included the request to move demand response incentive payments into base rates and track them as part of the PCA mechanism. On December 30, 2011, the IPUC issued Order No. 32426 that approved the general rate

case, including \$11.3 million of base-level demand response incentive payments being part of base rates effective January 1, 2012. The order also reduced the Idaho Rider from 4.75 percent to 4.00 percent.

The implementation of recovering the negative Rider balance in the PCA, as well as collecting demand response incentives through base rates, should significantly reduce the 2011 negative Rider balance of \$5,321,997 in 2012.

## **Energy Efficiency Rider—Prudency**

On March 15, 2011, Idaho Power filed Case No. IPC-E-11-05 with the IPUC requesting a prudency determination for 2010 Energy Efficiency Rider expenditures of \$42,479,692. The filing included three reports: *Demand-Side Management 2010 Annual Report, Supplement 1: Cost-Effectiveness*, and *Supplement 2: Evaluation*. Due to accounting corrections, on July 1, the company filed to revise the 2010 Energy Efficiency Rider expenditure number to \$41,952,911. On August 18, 2011, in Order No. 32331, the IPUC approved Idaho Power's 2010 DSM expenditures in the amount of \$41,952,911 as prudently incurred. On page 9 of the Order, the IPUC states,

The evidence demonstrates that the company actively evaluates its energy efficiency programs to ensure they meet reasonable standards, resulting in tangible benefits to all customers. Importantly, Idaho Power is making a good faith effort to meet the evaluation and reporting requirements in the MOU so that the IPUC and third parties are informed of program implementation and results. Finally, the evaluations of the different programs demonstrate their effectiveness, as shown by most of the cost/benefit ratios for each program.

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#### **CONTINUED COMMITMENT**

Every year, Idaho Power enhances its commitment to providing DSM programs that offer broader opportunities for Idaho Power's customers to manage their energy and demand use. Idaho Power also continues its effort to make its own facilities more energy efficient and to find ways to promote energy efficiency in its communities and with its employees. A review of specific efforts is listed in the following sections.

# **Continued Expansion and Broad Availability of Efficiency and Demand Response Programs**

In 2011, Idaho Power broadened the portfolio of programs offered to customers. Programs continue to add service areas where they are available to customers and continue to add new measures for customer participation. This expansion of programs and offerings helps ensure more customers each year have the opportunity to participate in programs. Some highlights for 2011 are as follows:

- Energy Efficiency Lighting included promotions for spiral bulbs and specialty bulbs, which contributed to the program providing over half of all energy savings related to residential customer programs.
- The H&CE Program increased program awareness by including the use of social-media websites as a new marketing tactic.
- Weatherization Solutions for Eligible Customers more than doubled in participants from 2010 due to an increased marketing campaign that included door hangers that were developed by Idaho Power and distributed by contractors.
- Building Efficiency expanded the technical trainings to include Boise, Twin Falls, Pocatello, and Ketchum.
- Participation in the Irrigation Peak Rewards program increased due to program modifications
  that were implemented in 2011 as well as resolved challenges surrounding dispatch devices
  and communications.
- See ya later, refrigerator<sub>®</sub> program tested several new marketing channels including a sponsorship with a local sports team and direct-mail.
- The commercial and industrial programs began working with real estate developers to set up
  efficiency metrics for new construction, and efforts to expand into convenience stores also
  occurred in 2011.
- Idaho Power expanded research by the IDL in Boise into peak load reduction technologies.

#### **Building-Code Improvement Activity**

Idaho Power was involved in the Idaho Energy Codes Collaborative in preparing the *Idaho Strategic Plan for 2009 International Energy Conservation Code Compliance* completed June 2011. The plan describes strategies for better implementation of energy codes throughout the State of Idaho. The collaboration resulted in 40 hours of training specific to the 2009 IECC for a broad audience, including contractors, engineers, architects, designers, and city officials. Additional workshops were

held on residential ductwork inside, residential and commercial HVAC, commercial lighting controls, and commercial daylighting throughout the State of Idaho.

Idaho Power supports building code improvements through its involvement with NEEA. The building code compliance and adoption efforts completed in Idaho included funding a circuit rider position for Idaho beginning in 2012; working with the Idaho Association of Building Officials; conducting outreach education, including training to support new state code compliance; and helping to secure a building code board review of the newest international conservation code.

Idaho Power also participated in NEEA's RBSA and CBSA. These studies will enable Idaho Power to obtain a comprehensive characterization of the current Idaho housing stock and commercial building stock information on over 200 attributes of Idaho buildings.

## **Pursuit of Appliance-Code Standards**

In 2011, Idaho Power supported the improvement of appliance codes through its support of NEEA. Representatives from NEEA participated in several DOE rulemaking proceedings, including standards for clothes washers, general fluorescent and incandescent reflector lamps, central air conditioners and heat pumps, residential water heaters, and set-top boxes. NEEA provided input to the EPA on ENERGY STAR® water heater specifications and supported integrating heat pump water heaters into federal test procedures and standards. NEEA also funded field research and testing for refrigerator-freezer icemakers and supported test procedures for clothes washers and clothes dryers.

## **Promotion of Energy Efficiency through Electricity Rate Design**

Idaho Power continues to support a policy of gradually moving all customers into rates designed to provide cost-based price signals and to encourage the wise and efficient use of energy.

In the company's 2008 general rate case, Case No. IPC-E-08-10, the company had proposed, and the IPUC authorized, several significant rate design changes, including a three-tiered rate structure for residential customers for the summer and non-summer months, the addition of non-summer tiered rates for small general service customers, time-of-use (TOU) rates for the large general service class, and the introduction of load factor pricing for the irrigation class. All of these rate designs were consistent with the company's rate design policy to provide cost-based price signals and to encourage the wise and efficient use of energy. In the company's 2011 general rate case, Case No. IPC-E-11-08, the company proposed to leave most of the current rate designs in place while continuing to provide cost-based price signals by adjusting each of the billing components to move incrementally closer to their cost-of-service. However, there are a few notable rate design changes that were proposed and approved.

For Schedule 1, Residential Service, the company proposed to retain the current three-tiered rate design but minimize the impact of any rate change on the third-tier customers in the non-summer months. While it is true that all customers, including all-electric customers who may have large monthly loads, should receive the higher price signal of a three-tier structure in order to provide an incentive to reduce their consumption, the company realized that many all-electric homes owners who heat with electricity may experience their greatest use during the winter evenings and nights, a time when the company's costs to serve those loads are lower than during peak hours. Unlike customers who may better be able to manage their electric use during the summer months by reducing their A/C load during the high-cost peak hours, the non-summer high-use customers may have less discretion to dramatically reduce their usage. Customers who were owners of all-electric homes felt the company was now penalizing them for their electric use at times when production costs were not necessarily high. Consequently, the company

proposed a residential rate design that continued to send the price signals to use energy efficiently but minimized the rate change impact to the third-tier during the non-summer months.

Furthermore, in response to customer requests resulting from the availability of new and enhanced street lighting technologies, the company revamped its existing lighting schedules. As a result, the company proposed some additional provisions and options for customers taking service under Schedule 41, Street Lighting Service.

Lastly, in preparation for an extended offering of a TVP option in 2012, the company updated its current time-of-day and critical peak pricing schedules to provide year-round TVP options to be more consistent in design with current industry standards. The new TVP schedules should provide customers additional options for managing their electric usage.

## **Third-Party, Independent Verification**

Idaho Power recognizes that the timely, credible, and transparent evaluation of all its DSM programs is critical in ensuring maximum program performance and accurate reporting of program savings. Third-party consultants are used to provide impact, process, and market evaluations to verify that program specifications are met, provide viable recommendations for program improvement, and validate energy savings achieved through Idaho Power's DSM programs.

In 2011, impact evaluations were completed by a third-party contractor on six programs, including Custom Efficiency, A/C Cool Credit, Home Improvement Program, Home Products Program, Energy House Calls, and Rebate Advantage. Process evaluations were completed for the Irrigation Peak Rewards and See ya later refrigerator® programs. Copies of these reports can be found in *Supplement 2: Evaluation*.

In addition, Idaho Power uses third-party contractors to perform QA and OSV for most programs. The H&CE Program, Home Improvement Program, Easy Upgrades, and Building Efficiency programs use third-party contractors to perform QA or OSV on approximately 10 percent of completed customer projects. The Energy House Calls, ENERGY STAR® Homes Northwest, and WAQC programs contract with third-party experts to perform QA analyses on approximately 5 percent of customer completed projects.

Throughout 2011, Idaho Power participated with NEEA to conduct several third-party evaluations. These studies included an evaluation of the DHP and Residential Economizer pilots, the Consumer Electronics Television Initiative, and several market effects evaluations in the residential, commercial, and industrial sectors. Copies of these reports can be found in *Supplement 2: Evaluation*.

The company also funds and participates in the RTF. The RTF is an advisory committee that was created in 1999 to develop regional standards and for the establishment of deemed savings derived from energy efficiency programs and measures. Idaho Power uses the RTF as a source for information regarding energy efficiency programs and measures and uses the RTF databases to provide deemed savings estimates for many of the energy efficiency measures implemented as part of the company's DSM programs.

It is anticipated that in 2012 Idaho Power will contract with third-party evaluators to complete impact evaluations, including the H&CE Program, See ya later, refrigerator<sub>®</sub>, WAQC, Weatherization Solutions for Eligible Customers, and Easy Upgrades, along with a process evaluation and research project for the A/C Cool Credit program. In addition, Idaho Power is using a third-party contractor to conduct a

system-wide Energy Efficiency Potential Study to be completed in June 2012. The 2011–2013 Evaluation Plan can be found in Supplement 2: Evaluation.

#### **Idaho Power's Internal Energy Efficiency Commitment**

Idaho Power's continued commitment toward promoting energy efficiency extends beyond encouraging, providing incentives, and educating its customers.

In 2011, Idaho Power advanced its internal sustainability program on a number of fronts and moved the internal sustainability program team into the company's Strategic Operations area. In January, Idaho Power's executive council endorsed the sustainability charter drafted by the Idaho Power sustainability council. The definition of sustainability for Idaho Power was formalized and reads. "Sound and enduring financial, environmental, and social stewardship." Several internal projects related to promoting sustainability were initiated, including an energy reduction project at three of the company-owned buildings, including the corporate headquarters (CHQ) building in Boise. As part of its educational initiative, sustainability team members made presentations at staff meetings and Green Bag luncheons to promote awareness, understanding, and relevance of sustainability to individual company employees. Much of the year was spent gathering content for the initial Sustainability Report to be released at the annual shareholders' meeting in May 2012. The report, using the internationally recognized Global Reporting Initiative index of questions, will detail the company's efforts in financial, environmental, and social stewardship. Additionally, the report will further promote transparency in company operations, efficiency targets, and efforts to minimize risks to the company's Mission to provide reliable, responsible, fair-priced energy services into Idaho Power's second century of operations.

The Idaho Power Green Team championed sustainable activities conducted by Idaho Power and its employees. In 2011, projects included coordinating volunteers for a refugee community garden project and river clean up, monthly Green Bag educational seminars, company-wide education on environmentally friendly and lower-cost printing options, and support for company-wide alternative transportation efforts.

Idaho Power's CHQ continued to participate in the strategic elimination of power loads during peak use through the FlexPeak Management program. In August 2010, Idaho Power entered into an agreement with EnerNOC, Inc., to enroll the CHQ in FlexPeak Management—Idaho Power's commercial/industrial demand response program. EnerNOC enlists and contracts with Idaho Power's commercial and industrial customers to voluntarily reduce their electricity use primarily during times of Idaho Power system peaks. EnerNOC provides participants with auditing assistance, energy monitoring software, demand reduction performance monitoring, coaching, and other related services. EnerNOC is obligated to achieve the reduction they nominate, or commit to, each week if Idaho Power calls an event. EnerNOC works closely with its program participants to estimate their reduction potential accurately. Unlike other program participants, Idaho Power does not receive any financial incentives to participate. Idaho Power now has a facility reduction plan in place that could be executed at any time to reduce electricity use if necessary.

In 2011, Idaho Power committed to reduce its electrical consumption by 100 kW during demand reduction events. The CHQ participated in all fourteen of the FlexPeak events, which were initiated in July and August. The average reduction achieved by the facility across the fourteen events was 200 kW. The CHQ exceeded the committed reduction in all but one event, in which case they achieved an average reduction of 92 kW. The maximum reduction was 377 kW, achieved in July. Reductions were mostly obtained by turning off lights, adjusting A/C set-points, decreasing fan speeds, and curtailing

elevator use. The facility reduction plan in place could be executed at any time to reduce electricity use if necessary.

During 2011, the company continued with the multi-year remodel and retrofit of the CHQ, completing the first floor of the building. The project included installing T-5 lighting that uses 60 percent less energy than old lighting packages. Natural light supplemented the T-5 lighting, accomplished through light harvesting near the exterior walls. Additionally, the use of shorter, 53-inch cubical partitions allowed more daylight while reducing lighting costs. Further retrofits included occupancy and vacancy sensors in all enclosed office and meeting spaces, low-flow toilets and automatic sink faucets in the restrooms, and window blinds that are 60 percent opaque with a horizontal range of motion that never needs closed. Other projects included the ongoing Payette Operations Center upgrades from T-12 to T-8 high-bay fluorescent lighting in the office areas. A similar lighting retrofit was completed in the Twin Falls office area with upgrades from T-12 lighting to T-8 lighting. Idaho Power continued to work on the Payette Operations Center, where the office areas were completed, with the break area and front entry due for completion in 2012.

Numerous energy efficiency projects are budgeted for 2012. A completion of the lighting retrofit at the Payette Operations Center is planned. Though it will take several years to complete lighting retrofits in the company's sub-stations across the service area, planning is underway in 2012. The company is engineering a new energy-efficient chilled water system for the CHQ, with implementation planned during 2013 through 2014.

## **CAES Energy Efficiency Research Institute**

The CAES is a public–private technical and policy research partnership based in Idaho Falls and comprised of Boise State University, Idaho State University, University of Idaho, the DOE, and the INL. On October 27, 2010, Idaho Governor C.L. "Butch" Otter announced the formation of the CAES Energy Efficiency Research Initiative (CEERI). The initiative is recognized now as an institute.

The initiative's initial focus was in four main areas: 1) public outreach and education, 2) workforce development, 3) college-level curriculum, and 4) research/technical development. Idaho Power's involvement in CEERI enables the company to positively influence energy efficiency education and research. The company will also benefit from educational opportunities for Idaho Power customers and employees and from the development of a workforce with relevant skills.

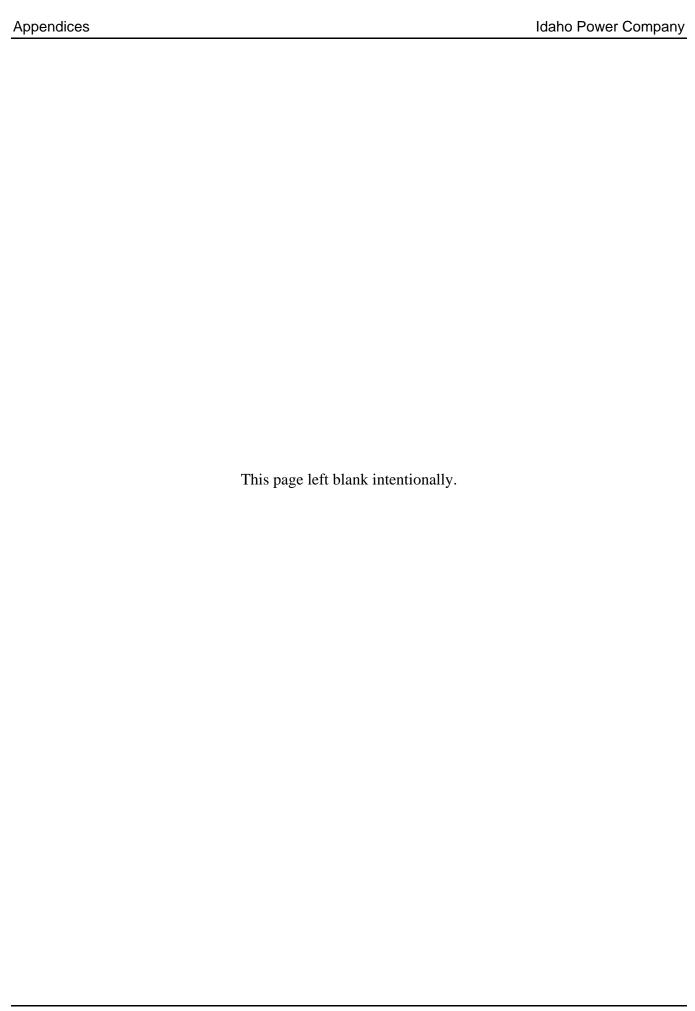
In July 2011, Idaho Power submitted a letter of support to CAES Energy Efficiency Research Institute (CEERI) to aid their pursuit of an Industrial Assessment Center that would be located in Idaho. The Industrial Assessment Center will train engineering students in energy efficiency and provide energy audits to mid-sized industrial facilities in the Northwest. In September, CEERI was awarded one of only 24 Industrial Assessment Center's in the nation. Only five centers will be located in the western US. With Idaho Power being widely recognized for its aggressive pursuit of all cost-effective energy efficiency, having a very experienced staff, and having solid relationships with its customers, Idaho Power looks forward to assisting CEERI as its Industrial Assessment Center develops.

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### **APPENDICES**

This report includes five appendices. Appendix 1 contains financial information for 2011, showing the beginning balance, ending balance, and the expenditures for the Idaho and Oregon Riders, BPA funding, and NEEA payments and credits. Appendix 2 also contains financial information showing expenses by funding source for each of Idaho Power's energy efficiency programs or activities. Appendix 3 shows participation, UC, TRC, energy and demand savings, measure life, and levelized costs for Idaho Power's current energy efficiency programs and activities for 2011. Appendix 4 shows similar data as Appendix 3 but also includes data for past years' program performance, B/C ratios from the utility perspective, and from the TRC perspectives for active programs. Appendix 5 contains program savings and costs separated into Idaho Power's Idaho and Oregon jurisdictions and by funding source.

Additional information is contained in the supplements provided in separate documents in two formats. Supplement 1: Cost-Effectiveness contains detailed cost-effectiveness information by program and energy-savings measure. Provided in Supplement 1 are the B/C ratios from the UC, TRC, RIM, and PCT perspectives. The 2011 DSM Detailed Expenses by Program table reports expenses by funding source and separates the company's DSM expenses by expense type, incentive expenses, labor/administration, materials, other expenses, and purchased services. Supplement 2: Evaluation contains copies of various third-party evaluations and reports. A CD is attached in Supplement 2 and contains copies of NEEA Market Effects Evaluations. A searchable, linked table with the title, study manager, evaluation type, and other information are included with each supplement.



# **Appendix 1.** Idaho Rider, Oregon Rider, Idaho Custom Efficiency, and NEEA funding balances

Idaho Energy Efficiency Rider		
2011 Beginning Balance	\$	(17,592,938)
2011 Balance Transfer to PCA		10,000,000
2011 Funding plus Accrued Interest		37,367,481
Total 2011 Funds		29,774,543
2011 Expenses		(35,096,540)
·		• • • • •
2011 Year-End Balance	. \$	(5,321,997)
Oregon Energy Efficiency Rider		
2011 Beginning Balance	\$	(1,873,675)
2011 Funding plus Accrued Interest		903,124
Total 2011 Funds		(907,551)
2011 Expenses		(2,566,890)
2011 Year-End Balance		(3,537,441)
Idaho Custom Efficiency Incentives		
2011 Beginning Balance		\$ (
2011 Accrued Interest		(212,339)
2011 Expenses		(7,018,385)
2011 Year-End Balance <sup>a</sup>	. \$	(7,230,724)
NEEA Payments and Escrow Credit Funds Balance		
2011 Idaho Power Contractual Obligation <sup>b</sup>	. \$	3,108,393
2011 Year-End Balance	. \$	3,108,393

<sup>&</sup>lt;sup>a</sup> In 2011, Idaho Power established an account for Idaho Custom Efficiency incentive payments per IPUC Order 32245.

b Idaho Power shall pre-pay estimated expenses quarterly, where the amount shall be amortized over the respective quarter. Funding of NEEA, approved by IPUC Order 31080 dated 5/12/10. Reconciliation between the estimated expenditures and the actual expenditures for the quarter will be completed 30 days after the quarter end or by March 1 for year-end. A true-up of the variance will be included in the next quarter's invoice, not to exceed 125 percent of its five-year total direct funding contribution.

Appendix 2. 2011 DSM expenses by funding source (dollars)

Sector/Program	lc	daho Rider	Or	egon Rider	ld	aho Power	Tot	al Program
Residential								
A/C Cool Credit	\$	2,781,553	\$	114,989	\$	0	\$	2,896,542
Ductless Heat Pump Pilot		183,260		7,923		0		191,183
Energy Efficient Lighting		1,668,328		50,805		0		1,719,133
Energy House Calls		447,229		36,146		0		483,375
ENERGY STAR® Homes Northwest		255,405		4,357		0		259,762
Heating & Cooling Efficiency Program		188,876		6,894		0		195,770
Home Improvement Program		666,041		0		0		666,041
Home Products Program		619,764		18,559		0		638,323
Oregon Residential Weatherization		0		6,690		1,236		7,926
Rebate Advantage		59,241		4,228		0		63,469
See ya later, refrigerator <sub>®</sub>		634,967		19,426		0		654,393
Weatherization Assistance for Qualified Customers		0		0		1,324,415		1,324,415
Weatherization Solutions for Eligible Customers <sup>a</sup>		774,254		(2,306)		16,200		788,148
Commercial/Industrial								
Building Efficiency		1,277,422		14,003		0		1,291,425
Comprehensive Lighting		2,404		0		0		2,404
Easy Upgrades		4,598,019		121,447		0		4,719,466
FlexPeak Management		1,954,850		102,880		0		2,057,730
Holiday Lighting		2,568		0		0		2,568
Oregon Commercial Audits		0		13,597		0		13,597
Custom Efficiency <sup>b</sup>		413,959		1,385,613		6,984,239		8,783,811
Irrigation								
Irrigation Efficiency Rewards		2,153,613		176,619		30,072		2,360,304
Irrigation Peak Rewards		11,790,216		254,013		41,993		12,086,222
Energy Efficiency/Demand Response Total	\$	30,471,969	\$	2,335,883	\$	8,398,155	\$	41,206,007
Market Transformation								
NEEA °		2,952,973		155,420		0		3,108,393
Market Transformation Total	\$	2,952,973	\$	155,420	\$	0	\$	3,108,393
Other Programs and Activities								
Residential Economizer Pilot <sup>d</sup>		101,612		101		0		101,713
Residential Energy Efficiency Education Initiative		151,791		7,854		0		159,645
Commercial Education Initiative		85,340		4,516		0		89,856
Energy Efficiency Direct Program Overhead		199,957		10,520		0		210,477
Local Energy Efficiency Funds		1,026		0		0		1,026
Other Programs and Activities Total	\$	539,726	\$	22,991		\$ 0	\$	562,717
Indirect Program Expenses								
Residential Overhead		167,477		8,824		0		176,301
Commercial/Industrial/Irrigation Overhead		178,255		9,384		0		187,639
Energy Efficiency Accounting and Analysis		633,972		33,686		136,212		803,870
Energy Efficiency Advisory Group		3,206		169		0		3,375
Special Accounting Entries <sup>e</sup>		148,962		533		68,455		217,950
Indirect Program Expenses Total		1,131,872	\$	52,596	\$	204,667	\$	1,389,135
Totals <sup>f</sup>	-	35,096,540	\$	2,566,890	\$	8,602,822	<u> </u>	
<sup>a</sup> Poclassify 2010 Organ Pider balance of (\$2 206) to the Idaha Pider	Φ	33,030,340	Ф	2,300,090	Ф	0,002,022	Ф	70,200,232

Reclassify 2010 Oregon Rider balance of (\$2,306) to the Idaho Rider.

Reclassify 2010 Oregon Rider balance of (\$2,306) to the Idaho Rider.

blaho Rider Custom Efficiency includes reclassification of \$526,781 from the Idaho Rider to the Oregon Rider (4 projects from 2010). Idaho Power balance of \$6,984,239 for Idaho Custom Efficiency incentives not included in base rates for 2011 (see footnote in Appendix 1).

NEEA funding addressed in IPUC Order No. 31080, dated 5/12/10. 2012 annual expense expected at \$3.7 million (see footnote in Appendix 1).

Residential Economizer Oregon Rider balance \$101 to be reclassified to Idaho Rider in 2012.

Special Accounting Entries Idaho Power accrual amount of \$34,146 not included in base rates for 2011.

Idaho Power will request a prudency determination on Idaho expenditures totaling \$42,641,706, which include \$35,096,540 from the Idaho Rider in 2011,

\$526,781 correcting adjustment from 2010 and \$7.018,385 from Idaho Custom Efficiency Incentives in 2011

<sup>\$526,781</sup> correcting adjustment from 2010 and \$7,018,385 from Idaho Custom Efficiency Incentives in 2011.

## **Appendix 3.** 2011 DSM program activity

			Total	Costs	Savi	ngs		Nomina Co	l Leve osts <sup>a</sup>	elized
Program		Participants	Utility <sup>b</sup>	Resource <sup>c</sup>	Annual Energy (kWh)	Peak Demand <sup>d</sup> <i>(MW)</i>	Measure Life	Utility (\$/kWh)	Re	Total source S/kWh)
Demand Response										
A/C Cool Credit	37,728	homes	\$ 2,896,542	\$ 2,896,542	n/a	24.0	n/a	n/a		n/a
Irrigation Peak Rewards	2,342	service points	12,086,222	12,086,222	n/a	320.0	n/a	n/a		n/a
FlexPeak Management	111	sites	2,057,730	2,057,730	n/a	58.8	n/a	n/a		n/a
Total			\$17,040,494	\$17,040,494	n/a	402.7				
Energy Efficiency										
Residential										
Ductless Heat Pump Pilot	131	homes	191,183	550,033	458,500		20	0.028		0.081
Energy Efficient Lighting 1	,039,755	bulbs	1,719,133	2,764,623	19,694,381		5	0.015		0.024
Energy House Calls	881	homes	483,375	483,375	1,214,004		20	0.027		0.027
ENERGY STAR® Homes Northwest	308	homes	259,762	651,249	728,030		32	0.020		0.051
Heating & Cooling Efficiency Program	130	projects	195,770	614,523	733,405		20	0.018		0.056
Home Improvement Program	2,275	homes	666,041	2,704,816	917,519		45	0.038		0.155
Home Products Program	15,896	appliances/fixtures	638,323	1,520,977	1,485,326		15	0.034		0.080
Oregon Residential Weatherization	8	homes	7,926	10,208	21,908		30	0.021		0.027
Rebate Advantage	25	homes	63,469	85,044	159,325		25	0.024		0.033
See ya later, refrigerator <sub>®</sub>	3,449	refrigerators/freezers	654,393	654,393	1,712,423		8	0.046		0.046
Weatherization Assistance for Qualified Customers	287	homes/non-profits	1,324,415	1,925,817	2,783,648		25	0.029		0.042
Weatherization Solutions for Eligible Customers	117	homes	788,148	788,148	1,141,194		25	0.042		0.042
Sector Total			\$ 6,991,938	\$ 12,753,206	31,049,662		11	\$ 0.021	\$	0.038
Commercial										
Building Efficiency	63	projects	1,291,425	3,320,015	11,514,641	0.9	12	0.010		0.026
Easy Upgrades	1,732	projects	4,719,466	9,519,364	38,723,073	4.4	12	0.011		0.022
Oregon Commercial Audits	12	audits	13,597	13,597			n/a	n/a		n/a
Sector Total			\$ 6,024,488	\$ 12,852,976	50,237,714	5.3	12	\$ 0.011	\$	0.023
Industrial										
Custom Efficiency <sup>1</sup>	223	projects	\$ 8,783,811	\$19,830,834	67,979,157	7.8	12	\$ 0.012	\$	0.026
Sector Total			\$ 8,783,811	\$ 19,830,834	67,979,157	7.8	12	\$ 0.012	\$	0.026

#### Appendix 3. 2011 DSM program activity (continued)

		Total	Costs	Savin	gs		N	ominal Co	Leve sts <sup>a</sup>	lized
Program	Participants	Utility <sup>b</sup>	Resource <sup>c</sup>	Annual Energy (kWh)	Peak Demand <sup>d</sup> <i>(MW)</i>	Measure Life		tility ⁄kWh)	Re	Total source S/kWh)
Irrigation										
Irrigation Efficiency Rewards <sup>2</sup>	880 projects	\$ 2,360,304	\$13,281,492	13,979,833	3.8	8	\$	0.020	\$	0.113
Sector Total		\$ 2,360,304	\$13,281,492	13,979,833	3.8	10	\$	0.020	\$	0.113
Market Transformation										
Northwest Energy Efficiency Alliance <sup>3</sup>		\$ 3,108,393	\$ 3,108,393	16,109,344						
Other Programs and Activities										
Residential										
Residential Economizer		101,713	101,713							
Residential Energy Efficiency Education Initiative		159,645	159,645							
Commercial										
Commercial Education Initiative		89,856	89,856							
Comprehensive Lighting		2,404	2,404							
Holiday Lighting	6	2,568	2,990	66,189		10				
Other										
Energy Efficiency Direct Program Overhead		210,477	210,477							
Local Energy Efficiency Funds	1 project	1,026	2,052	2,028		30	\$	0.029	\$	0.058
Total Program Direct Expense		\$44,877,117	\$79,436,532	179,423,927	419.5					
Indirect Program Expense		1,389,135								
Total DSM Expense		\$ 46,266,252								

<sup>&</sup>lt;sup>a</sup> Levelized Costs are based on financial inputs from Idaho Power's 2011 IRP, and calculations include line-loss-adjusted energy savings.

<sup>&</sup>lt;sup>b</sup> The Total UC is all costs incurred by Idaho Power to implement and manage a DSM program.

<sup>°</sup> The TRC is the total expenditures for a DSM program from the point of view of Idaho Power and its customers as a whole.

<sup>&</sup>lt;sup>d</sup> Summer Peak Demand is reported where program MW reduction is documented. Demand response program reductions are reported with 13 percent peak loss assumptions.

<sup>&</sup>lt;sup>1</sup> Custom Efficiency savings includes 25 Green Rewind participants totaling 156,141 kWh of annual savings not counted in project totals.

<sup>&</sup>lt;sup>2</sup> Irrigation Efficiency includes 32 Green Rewind participants totaling 36,064 kWh of annual savings not counted in project totals.

<sup>&</sup>lt;sup>3</sup> Savings are preliminary estimates provided by NEEA.

**Appendix 4.** DSM expense and performance 2002–2011

		Total	Costs	Savings and Reduc				Levelize	ed Costs <sup>a</sup>	Prograr Benefit/Cos	
Program/Year	Participants	<b>Ut</b> ility <sup>c</sup>	Resource <sup>d</sup>	Annual Energy (kWh)	Average Energy <sup>e</sup> (aMW)	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	Total Utility (\$/kWh)	Total Resource (\$/kWh)	Utility	Total Resource
Demand Response											
A/C Cool Credit											
2003	204	\$ 275,645	\$ 275,645			0.0					
2004	420	287,253	287,253			0.5					
2005	2,369	754,062	754,062			3.1					
2006	5,369	1,235,476	1,235,476			6.3					
2007	13,692	2,426,154	2,426,154			12.2					
2008	20,195	2,969,377	2,969,377			25.5					
2009	30,391	3,451,988	3,451,988			38.5					
2010	30,803	2,002,546	2,002,546			39.0					
2011	37,728	2,896,542	2,896,542			24.0					
Total		\$16,299,042	\$16,299,042							1.10	1.10
FlexPeak Management											
2009	33	528,681	528,681			19.3					
2010	60	1,902,680	1,902,680			47.5					
2011	111	2,057,730	2,057,730			58.8					
Total		\$ 4,489,091	\$ 4,489,091							1.19	1.19
Irrigation Peak Rewards											
2004	58	344,714	344,714			5.6					
2005	894	1,468,282	1,468,282			40.3					
2006	906	1,324,418	1,324,418			31.8					
2007	947	1,615,881	1,615,881			37.4					
2008	897	1,431,840	1,431,840			35.1					
2009	1,512	9,655,283	9,655,283			160.2					
2010	2,038	13,330,826	13,514,246			249.7					
2011	2,342	12,086,222	12,086,222			320.0					
Total		\$41,257,466	\$41,440,886							1.72	1.64

**Appendix 4**. DSM expense and performance 2002–2011 (continued)

		Total	Costs	Savings and Reduc				Levelize	ed C	osts <sup>a</sup>	Prograr Benefit/Cos	
Program/Year	Participants	Utility <sup>c</sup>	Resource <sup>d</sup>	Annual Energy (kWh)	Average Energy <sup>e</sup> (aMW)	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	Total Utility (\$/kWh)	Re	Total source B/kWh)	Utility	Total Resource
Residential Efficiency		,										
Ductless Heat Pump Pilot												
2009	. 96	\$ 202,004	\$ 451,605	409,180	0.05		18	\$ 0.031	\$	0.086		
2010	104	189,231	439,559	364,000	0.04		20	0.044		0.103		
2011	131	191,183	550,033	458,500	0.05		20	0.028		0.081		
Total	. 331	\$ 582,419	\$ 1,441,197	1,231,680			20	\$ 0.039	\$	0.096	3.84	1.45
Energy Efficient Packets												
2002	2,925	755	755	155,757	0.02		7	0.001		0.001		
Total	2,925	\$ 755	\$ 755	155,757			7	\$ 0.001	\$	0.001		
Energy Efficient Lighting												
2002	11,619	243,033	310,643	3,299,654	0.38		7	0.012		0.015		
2003	12,663	314,641	464,059	3,596,150	0.41		7	0.014		0.021		
2005	43,760	73,152	107,810	1,734,646	0.20		7	0.007		0.010		
2006	178,514	298,754	539,877	6,302,794	0.72		7	0.008		0.014		
2007	219,739	557,646	433,626	7,207,439	0.82		7	0.012		0.017		
2008	436,234	1,018,292	793,265	14,309,444	1.63		7	0.011		0.013		
2009	549,846	1,207,366	1,456,796	13,410,748	1.53		5	0.020		0.024		
2010	1,190,139	2,501,278	3,976,476	28,082,738	3.21		5	0.020		0.031		
2011	1,039,755	1,719,133	2,764,623	19,694,381	2.25		5	0.015		0.024		
Total	3,682,267	\$ 7,933,295	\$10,847,175	97,637,994			5	\$ 0.017	\$	0.024	4.20	3.07
Energy House Calls												
2002	. 17	26,053	26,053	25,989	0.00		20	0.082		0.082		
2003	420	167,076	167,076	602,723	0.07		20	0.023		0.023		
2004	1,708	725,981	725,981	2,349,783	0.27		20	0.025		0.025		
2005	891	375,610	375,610	1,775,770	0.20		20	0.017		0.017		
2006	819	336,701	336,701	777,244	0.09		20	0.035		0.035		
2007	700	336,372	336,372	699,899	0.08		20	0.039		0.039		
2008	1,099	484,379	484,379	883,038	0.10		20	0.045		0.045		
2009	1,266	569,594	569,594	928,875	0.11		20	0.052		0.052		
2010	1,602	762,330	762,330	1,198,655	0.14		20	0.054		0.054		

**Appendix 4**. DSM expense and performance 2002–2011 (continued)

		Total	Costs	Savings and Reduc				Levelize	ed Cos	its <sup>a</sup>	Progran Benefit/Cos	
Program/Year	Participants	<b>Utility</b> <sup>c</sup>	Resource <sup>d</sup>	Annual Energy (kWh)	Average Energy <sup>e</sup> (aMW)	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	Total Utility (\$/kWh)	Resc	otal ource (Wh)	Utility	Total Resource
Residential Efficiency												
Energy House Calls												
2011	. 881	\$ 483,375	\$ 483,375	1,214,004	0.14		20	\$ 0.027	\$ (	0.027		
Total	9,403	\$ 4,267,471	\$ 4,267,471	10,455,980			20	\$ 0.034	\$ (	0.034	3.07	3.07
ENERGY STAR <sup>®</sup> Homes Northwest												
2003		13,597	13,597									
2004	. 44	140,165	335,437	101,200	0.01	0.1	25	0.103	(	0.246		
2005	200	253,105	315,311	415,600	0.05	0.4	25	0.045	(	0.056		
2006	439	469,609	602,651	912,242	0.10	0.9	25	0.038	(	0.049		
2007	303	475,044	400,637	629,634	0.07	0.6	25	0.056	(	0.047		
2008	254	302,061	375,007	468,958	0.05	0.6	25	0.048	(	0.059		
2009	474	355,623	498,622	705,784	0.08	1.1	25	0.039	(	0.055		
2010	630	375,605	579,495	883,260	0.10		25	0.033	(	0.051		
2011	308	259,762	651,249	728,030	0.08		32	0.020	(	0.051		
Total	2,652	\$ 2,644,571	\$ 3,772,007	4,844,708			32	\$ 0.038	\$ (	0.054	3.59	2.51
Heating & Cooling Efficiency Program												
2006		17,444	17,444									
2007	. 4	488,211	494,989	1,595	0.00		18	27.344	2	7.710		
2008	359	473,551	599,771	561,441	0.06		18	0.073	(	0.092		
2009	349	478,373	764,671	1,274,829	0.15		18	0.034	(	0.054		
2010	217	327,669	1,073,604	1,104,497	0.13		20	0.025	(	0.083		
2011	130	195,770	614,523	733,405	0.08		20	0.018	(	0.056		
Total	1,059	\$ 1,981,019	\$ 3,565,002	3,675,766			20	\$ 0.044	\$ (	0.080	3.05	1.69
Home Improvement Program												
2008	282	123,454	157,866	317,814	0.04		25	0.029	(	0.037		
2009	1,188	321,140	550,148	1,338,876	0.15		25	0.019	(	0.032		
2010	3,537	944,716	2,112,737	3,986,199	0.46		45	0.016	(	0.035		
2011	2,275	666,041	2,704,816	917,519	0.10		45	0.038	(	0.155		
Total	7,282	\$ 2,055,351	\$ 5,525,567	6,560,408			45	\$ 0.020	\$ (	0.054	2.98	1.11

**Appendix 4**. DSM expense and performance 2002–2011 (continued)

		Total	Costs	Savings and Reduc				Levelize	ed Costs <sup>a</sup>	Progran Benefit/Cos	n Life st Ratios⁵
Program/Year	Participants	<b>Ut</b> ility <sup>c</sup>	Resource <sup>d</sup>	Annual Energy (kWh)	Average Energy <sup>e</sup> (aMW)	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	Total Utility (\$/kWh)	Total Resource (\$/kWh)	Utility	Total Resource
Residential Efficiency											
Home Products Program											
2007		\$ 9,275	\$ 9,275								
2008	3,034	250,860	468,056	541,615	0.06		15	\$ 0.044	\$ 0.082		
2009	9,499	511,313	844,811	1,638,038	0.19		15	0.031	0.051		
2010	16,322	832,161	1,025,151	1,443,580	0.16		15	0.057	0.070		
2011	15,896	638,323	1,520,977	1,485,326	0.17		15	0.034	0.080		
Total	44,751	\$ 2,241,932	\$ 3,868,270	5,108,559			15	\$ 0.042	\$ 0.072	2.51	1.45
Oregon Residential Weatherization											
2002	24	-662	23,971	4,580			25	0.010	0.389		
2003		-943									
2004	4	1,057	1,057								
2005	4	612	3,608	7,927	0.00		25	0.006	0.034		
2006		4,126	4,126								
2007	1	3,781	5,589	9,971	0.00		25	0.028	0.042		
2008	3	7,417	28,752	22,196	0.00		25	0.025	0.096		
2009	1	7,644	8,410	2,907	0.00		25	0.203	0.223		
2010	1	6,050	6,275	320	0.00		30	0.011	0.062		
2011	8	7,926	10,208	21,908	0.00		30	0.021	0.027		
Total	46	\$ 37,009	\$ 91,996	69,809			30	\$ 0.037	\$ 0.093	3.54	1.42
Rebate Advantage											
2003	73	27,372	79,399	227,434	0.03		45	0.008	0.022		
2004	105	52,187	178,712	332,587	0.04		45	0.010	0.034		
2005	98	46,173	158,462	312,311	0.04		45	0.009	0.032		
2006	102	52,673	140,289	333,494	0.04		45	0.010	0.027		
2007	123	89,269	182,152	554,018	0.06		45	0.010	0.021		
2008		90,888	179,868	463,401	0.05		45	0.012	0.025		
2009	57	49,525	93,073	247,348	0.03		25	0.015	0.029		
2010	35	39,402	66,142	164,894	0.02		25	0.018	0.031		

**Appendix 4**. DSM expense and performance 2002–2011 (continued)

		Total	Costs	Savings and Reduc				Levelize	ed Co	osts <sup>a</sup>	Progran Benefit/Cos	
Program/Year	Participants	Utility <sup>c</sup>	Resource <sup>d</sup>	Annual Energy (kWh)	Average Energy <sup>e</sup> (aMW)	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	Total Utility (\$/kWh)	Re	Total source S/kWh)	Utility	Total Resource
Residential Efficiency					,					,		
Rebate Advantage												
2011	25	\$ 63,469	\$ 85,044	159,325	0.02		25	\$ 0.024	\$	0.033		
Total	725	\$ 510,958	\$ 1,163,141	2,794,812			25	\$ 0.014	\$	0.031	8.35	3.67
See ya later, refrigerator <sub>®</sub>												
2009	1,661	305,402	305,401	1,132,802	0.13		8	0.041		0.041		
2010	3,152	565,079	565,079	1,567,736	0.18		8	0.054		0.054		
2011	3,449	654,393	654,393	1,712,423	0.20		8	0.046		0.046		
Total	8,262	\$1,524,873	\$ 1,524,873	4,412,961			8	\$ 0.050	\$	0.050	1.66	1.66
Weatherization Solutions for Eligible Customers												
2008	. 16	52,807	52,807	71,680	0.01		25	0.055		0.050		
2009	. 41	162,995	162,995	211,720	0.02		25	0.059		0.059		
2010	47	228,425	228,425	313,309	0.04		25	0.056		0.056		
2011	. 117	788,148	788,148	1,141,194	0.13		25	0.042		0.042		
Total	221	\$1,232,375	\$ 1,232,375	\$1,757,902			25	\$ 0.053	\$	0.053	2.25	2.25
Window A/C Trade Up Pilot												
2003	. 99	6,687	10,492	14,454			12	0.051		0.079		
Total	99	\$ 6,687	\$ 10,492	14,454			12	\$ 0.051	\$	0.079		
Residential—Weatherization A	ssistance for Q	ualified Custor	mers (WAQC)									
WAQC—Idaho												
2002	197	235,048	492,139									
2003	208	228,134	483,369									
2004	269	498,474	859,482	1,271,677	0.15		25	0.029		0.050		
2005	570	1,402,487	1,927,424	3,179,311	0.36		25	0.033		0.045		
2006	540	1,455,373	2,231,086	2,958,024	0.34		25	0.037		0.056		
2007	397	1,292,930	1,757,105	3,296,019	0.38		25	0.029		0.040		
2008	439	1,375,632	1,755,749	4,064,301	0.46		25	0.025		0.032		
2009	427	1,260,922	1,937,578	4,563,832	0.52		25	0.021		0.033		
2010	373	1,205,446	2,782,597	3,452,025	0.39		25	0.027		0.060		

**Appendix 4**. DSM expense and performance 2002–2011 (continued)

		Total	Costs	Savings and Reduc				Leveliz	ed Costs <sup>a</sup>	Prograi Benefit/Cos	
Program/Year	Participants	Utility <sup>c</sup>	Resource <sup>d</sup>	Annual Energy (kWh)	Average Energy <sup>e</sup> (aMW)	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	Total Utility (\$/kWh)	Total Resource (\$/kWh)	Utility	Total Resource
Residential—Weatherization As	sistance for Q	ualified Custor	mers (WAQC)		•				•		`
WAQC—Idaho											
2011	273	\$ 1,278,112	\$ 1,861,836	2,648,676	0.30		25	\$ 0.036	\$ 0.053		
Total	3,693	\$10,232,558	\$16,088,365	25,433,865			25	\$ 0.030	\$ 0.047	4.57	2.90
WAQC—Oregon											
2002	31	24,773	47,221	68,323	0.01		25	0.027	0.051		
2003	29	22,255	42,335	102,643	0.01		25	0.016	0.031		
2004	17	13,469	25,452	28,436	0.00		25	0.035	0.067		
2005	28	44,348	59,443	94,279	0.01		25	0.035	0.047		
2006											
2007	11	30,694	41,700	42,108	0.00		25	0.054	0.074		
2008	14	43,843	74,048	73,841	0.01		25	0.040	0.068		
2009	10	33,940	46,513	114,982	0.01		25	0.023	0.031		
2010	27	115,686	147,712	289,627	0.03		25	0.030	0.038		
2011	14	46,303	63,981	134,972	0.02		25	0.026	0.035		
Total	181	\$ 375,311	\$ 548,405	949,211			25	\$ 0.030	\$ 0.043	4.44	3.04
WAQC—BPA Supplemental											
2002	75	55,966	118,255	311,347	0.04		25	0.013	0.028		
2003	57	49,895	106,915	223,591	0.03		25	0.017	0.036		
2004	40	69,409	105,021	125,919	0.01		25	0.041	0.062		
Total	172	\$ 175,270	\$ 330,191	660,857			25	\$ 0.020	\$ 0.037	6.45	3.43
WAQC—All Total		\$10,783,139	\$16,966,961	27,043,933						4.59	2.92
Commercial											
Air Care Plus Pilot											
2003	4	5,764	9,061	33,976			10	0.021	0.033		
2004		344	344								
Total	4	\$ 6,108	\$ 9,405	33,976			10	\$ 0.022	\$ 0.034		
Building Efficiency											
2004		28,821	28,821								
2005	12	194,066	233,149	494,239	0.06	0.2	12	0.043	0.052		
2006	40	374,008	463,770	704,541	0.08	0.3	12	0.058	0.072		

**Appendix 4**. DSM expense and performance 2002–2011 (continued)

		Total	Costs	Savings and Reduc				Levelize	ed C	osts <sup>a</sup>	Program Benefit/Cos	
Program/Year	Participants	<b>Ut</b> ility <sup>c</sup>	Resource <sup>d</sup>	Annual Energy (kWh)	Average Energy <sup>e</sup> (aMW)	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	Total Utility (\$/kWh)	Re	Total source \$/kWh)	Utility	Total Resource
Commercial												
Building Efficiency												
2007	. 22	\$ 669,032	\$ 802,839	2,817,248	0.32	0.5	12	\$ 0.015	\$	0.040		
2008	. 60	1,055,009	1,671,375	6,598,123	0.75	1.0	12	0.017		0.028		
2009	. 72	1,327,128	2,356,434	6,146,139	0.70	1.3	12	0.024		0.043		
2010	. 70	1,509,682	3,312,963	10,819,598	1.24	0.9	12	0.016		0.035		
2011	. 63	1,291,425	3,320,015	11,514,641	1.31	0.9	12	0.010		0.026		
Total	. 339	\$ 6,449,171	\$12,189,367	39,094,529			12	\$ 0.018	\$	0.034	5.03	2.66
Easy Upgrades												
2006		31,819	31,819									
2007	. 104	711,494	1,882,035	5,183,640	0.59	0.8	12	0.015		0.040		
2008	. 666	2,992,261	10,096,627	25,928,391	2.96	4.5	12	0.013		0.043		
2009	. 1,224	3,325,505	10,076,237	35,171,627	4.02	6.1	12	0.011		0.032		
2010	. 1,535	3,974,410	7,655,397	35,824,463	4.09	7.8	12	0.013		0.024		
2011	. 1,732	4,719,466	9,519,364	38,723,073	4.42	4.4	12	0.011		0.022		
Total	5,261	\$15,754,955	\$39,261,479	140,831,194			12	\$ 0.012	\$	0.031	7.41	2.97
Holiday Lighting												
2008	. 14	28,782	73,108	259,092	0.03		10	0.014		0.035		
2009	. 32	33,930	72,874	142,109	0.02		10	0.031		0.066		
2010	. 25	46,132	65,308	248,865	0.03		10	0.024		0.034		
2011	. 6	2,568	2,990	66,189	0.01		10	0.004		0.005		
Total	. 77	\$ 111,412	\$ 214,280	716,255			10	\$ 0.019	\$	0.037	3.53	1.84
Oregon Commercial Audits												
2002	. 24	5,200	5,200									
2003	. 21	0	4,000									
2004	. 7	0	0									
2005	. 7	5,450	5,450									
2006												
2007		1,981	1,981									
2008		58	58									
2009	. 41	20,732	20,732									

**Appendix 4**. DSM expense and performance 2002–2011 (continued)

		Total	Costs	Savings an Redu				Levelize	ed Costs <sup>a</sup>	Progra Benefit/Co	
Program/Year	Participants	Utility <sup>c</sup>	Resourc	Annual Energy e <sup>d</sup> (kWh)	Average Energy <sup>e</sup> (aMW)	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	Total Utility (\$/kWh)	Total Resource (\$/kWh)	Utility	Total Resource
Commercial							,				
Oregon Commercial Audits											
2010	22	\$ 5,049	\$ 5,0	49							
2011	12	13,597	13,5	97							
Total	140	\$ 52,067	\$ 56,0	67							
Oregon School Efficiency											
2005		86		86							
2006	6	24,379	89,7	71 223,368	0.03		12	\$ 0.012	\$ 0.044		
Total	6	\$ 24,465	\$ 89,8	58 223,368			12	\$ 0.012	\$ 0.044		
Industrial											
Custom Efficiency											
2003		1,303	1,3	03							
2004	1	112,311	133,4	41 211,295	0.02		12	0.058	0.069		
2005	24	1,128,076	3,653,1	52 12,016,678	1.37		12	0.010	0.033		
2006	40	1,625,216	4,273,8	85 19,211,605	2.19		12	0.009	0.024		
2007	49	3,161,866	7,012,6	29,789,304	3.40	3.6	12	0.012	0.026		
2008	101	4,045,671	16,312,3	41,058,639	4.69	4.8	12	0.011	0.044		
2009	132	6,061,467	10,848,1	23 51,835,612	5.92	6.7	12	0.013	0.024		
2010	223	8,778,125	17,172,1	76 71,580,075	8.17	9.5	12	0.014	0.027		
2011	166	8,783,811	19,830,8	34 67,979,157	7.76	7.8	12	0.012	0.026		
Total	736	\$33,697,845	\$79,237,9	79 293,682,365			12	\$ 0.013	\$ 0.030	7.27	3.09
Irrigation											
Irrigation Efficiency											
2003	2	41,089	54,6	36,792	0.00	0.0	15	0.106	0.141		
2004	33	120,808	402,9	78 802,812	0.09	0.4	15	0.014	0.048		
2005	38	150,577	657,4	60 1,012,883	0.12	0.4	15	0.014	0.062		
2006	559	2,779,620	8,514,2	16,986,008	1.94	5.1	8	0.024	0.073		
2007	816	2,001,961	8,694,7	72 12,304,073	1.40	3.4	8	0.024	0.103		
2008	961	2,103,702	5,850,7	78 11,746,395	1.34	3.5	8	0.026	0.073		
2009	887	2,293,896	6,732,2	13,157,619	1.50	3.4	8	0.026	0.077		
2010	753	2,200,814	6,968,5	98 10,968,430	1.25	3.3	8	0.030	0.096		

**Appendix 4**. DSM expense and performance 2002–2011 (continued)

		Total Costs			Savings and Reduc				ı	Levelize	Levelized Costs <sup>a</sup>			Program Life Benefit/Cost Ratios⁵	
Program/Year	Participants	U	ltility <sup>c</sup>	Re	esource <sup>d</sup>	Annual Energy (kWh)	Average Energy <sup>e</sup> (aMW)	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	U	Γotal Jtility ∀kWh)	Re	Γotal source ∛kWh)	Utility	Total Resource
Irrigation									,						
Irrigation Efficiency															
2011	880	\$ 2	,360,304	\$13	3,281,492	13,979,833	1.60	3.8	8	\$	0.020	\$	0.113		
Total	4,929	\$14	,052,772	\$51	1,157,185	80,994,845			8	\$	0.025	\$	0.092	4.54	1.79
						Other Pro	grams								
Building Operator Training															
2003	71		48,853		48,853	1,825,000	0.21		5		0.006		0.006		
2004	26		43,969		43,969	650,000	0.07		5		0.014		0.014		
2005	7		1,750		4,480	434,167	0.05		5		0.001		0.002		
Total	104	\$	94,572	\$	97,302	2,909,167			5	\$	0.007	\$	0.007		
Commercial Education Initiative															
2005			3,497		3,497										
2006			4,663		4,663										
2007			26,823		26,823										
2008			72,738		72,738										
2009			120,584		120,584										
2010			68,765		68,765										
2011			89,856		89,856										
Total		\$	386,926	\$	386,926										
Comprehensive Lighting															
2011			2,402		2,402										
Total		\$	2,402	\$	2,402										
Distribution Efficiency															
2005			21,552		43,969										
2006			24,306		24,306										
2007			8,987		8,987										
2008			-1,913		-1,913										
Total		\$	52,932	\$	75,349										
DSM Direct Program Overhead															
2007			56,909		56,909										
2008			169,911		169,911										

**Appendix 4**. DSM expense and performance 2002–2011 (continued)

		Total Costs			Savings and Demand Reduction				Levelized Costs <sup>a</sup>		Program Life Benefit/Cost Ratios <sup>b</sup>	
Program/Year	Participants	<b>Ut</b> ility <sup>c</sup>	Res	source <sup>d</sup>	Annual Energy (kWh)	Average Energy <sup>e</sup> (aMW)	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	Total Utility (\$/kWh)	Total Resource (\$/kWh)	Utility	Total Resource
Other Programs												
DSM Direct Program Overhead												
2009		164,957		164,957								
2010		117,874		117,874								
2011		\$ 210,477	\$	210,477								
Total		\$ 720,128	\$	720,128								
Other C&RD and CRC BPA												
2002		55,722		55,722								
2003		67,012		67,012								
2004		108,191		108,191								
2005		101,177		101,177								
2006		124,956		124,956								
2007		31,645		31,645								
2008		6,950		6,950								
Total		\$ 495,654	\$	495,654								
Residential Economizer Pilot												
2011		101,713		101,713								
Total		\$ 101,713	\$	101,713								
Residential Energy Efficiency Education Initiative												
2005		7,498		7,498								
2006		56,727		56,727								
2007												
2008		150,917		150,917								
2009		193,653		193,653								
2010		222,092		222,092								
2011		159,645		159,645								
Total		\$ 790,532	\$	790,532								
Solar 4R Schools												
2009		42,522		45,522								
Total		\$ 42,522	\$	45,522								

**Appendix 4**. DSM expense and performance 2002–2011 (continued)

		Total	Costs	Savings and Demand Reduction				Levelize	d Costs <sup>a</sup>	Program Life Benefit/Cost Ratios <sup>b</sup>	
Program/Year	Participants	Utility <sup>c</sup>	Resource <sup>d</sup>	Annual Energy (kWh)	Average Energy <sup>e</sup> (aMW)	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	Total Utility (\$/kWh)	Total Resource (\$/kWh)	Utility	Total Resource
Other Programs							,				
Local Energy Efficiency Funds											
2003	56	\$ 5,100	\$ 5,100								
2004		23,449	23,449								
2005	2	14,896	26,756	78,000	0.01		10	\$ 0.024	\$ 0.042		
2006	480	3,459	3,459	19,027	0.00		7	0.009	0.009		
2007	1	7,520	7,520	9,000	0.00		7	0.135	0.135		
2008	2	22,714	60,100	115,931	0.01		15	0.019	0.049		
2009	1	5,870	4,274	10,340	0.00		12	0.064	0.047		
2010	1	251	251		0.00						
2011	1	1,026	2,052	2,028			30	0.036	0.071		
Total	544	\$ 84,285	\$ 132,961	234,326			14	\$ 0.036	\$ 0.058	2.83	1.80
Market Transformation											
NEEA											
2002		1,286,632	1,286,632	12,925,450	1.48						
2003		1,292,748	1,292,748	11,991,580	1.37						
2004		1,256,611	1,256,611	13,329,071	1.52						
2005		476,891	476,891	16,422,224	1.87						
2006		930,455	930,455	18,597,955	2.12						
2007		893,340	893,340	28,601,410	3.27						
2008		942,014	942,014	21,024,729	2.40						
2009		968,263	968,263	10,702,998	1.22						
2010		2,391,217	2,391,217	21,300,366	2.43						
2011		3,108,393	3,108,393	16,109,344	1.84						
Total		\$13,546,563	\$13,546,563	171,004,677							
Consumer Electronic Initiative											
2009		160,762	160,762								
Total		\$ 160,762	\$ 160,762								

**Appendix 4**. DSM expense and performance 2002–2011 (continued)

		Tota	l Costs	Savings and Demand Reduction				Levelized Costs <sup>a</sup>		Program Life Benefit/Cost Ratios⁵	
Program/Year	Participants	Utility°	Resource <sup>d</sup>	Annual Energy (kWh)	Average Energy <sup>e</sup> (aMW)	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	Total Utility (\$/kWh)	Total Resource (\$/kWh)	Utility	Total Resource
Annual Totals								*	•		
2002		\$ 1,932,520	\$ 2,366,591	16,791,100	1.92	0.0					_
2003		2,566,229	3,125,573	18,654,343	2.12	0.0					
2004		3,827,212	4,860,912	19,202,780	2.19	6.6					
2005		6,523,349	10,383,578	37,978,035	4.34	44.3					
2006		11,174,181	20,950,111	67,026,303	7.65	44.4					
2007		14,896,816	27,123,018	91,145,357	10.40	58.5					
2008		20,213,215	44,775,829	128,508,579	14.67	74.9					
2009		33,821,062	53,090,852	143,146,364	16.34	236.6					
2010		44,643,541	69,164,744	193,592,637	22.10	357.7					
2011		44,877,117	79,436,532	179,423,928	20.48	419.6					
Total Direct Program	;	\$184,475,241	\$ 315,277,739	895,469,426							
Indirect Program Expense											
DSM Overhead and Other Indirect											
2002		128,855									
2003		-41,543									
2004		142,334									
2005		177,624									
2006		309,832									
2007		765,561									
2008		980,305									
2009		1,025,704									
2010		1,189,310									
2011		1,389,135									
Total		\$ 6,067,120									
Total Expense											
2002		2,061,375									
2003		2,524,686									
2004		3,969,549									
2005		6,700,973									

#### **Appendix 4**. DSM expense and performance 2002–2011 (continued)

		Total Costs		Savings and Demand Reduction				Levelized Costs <sup>a</sup>		Program Life Benefit/Cost Ratios⁵	
Program/Year	Participants	Utility <sup>c</sup>	Resource <sup>d</sup>	Annual Energy (kWh)	Average Energy <sup>°</sup> <i>(aMW)</i>	Peak Demand <sup>f</sup> (MW)	Measure Life (Years)	Total Utility (\$/kWh)	Total Resource (\$/kWh)	Utility	Total Resource
Total Expenses											
2006		\$11,484,013									
2007		15,662,377									
2008		21,193,520									
2009		34,846,766									
2010		45,832,851									
2011		46,266,252									
Total 2002–2011		\$190,542,361									

<sup>&</sup>lt;sup>a</sup> Levelized Costs are based on financial inputs from Idaho Power's 2009 IRP and calculations include line-loss-adjusted energy savings.

<sup>&</sup>lt;sup>b</sup> Program life B/C ratios are provided for active programs only.

<sup>&</sup>lt;sup>c</sup> The Total UC is all costs incurred by Idaho Power to implement and manage a DSM program.

<sup>&</sup>lt;sup>d</sup> The TRC is the total expenditures for a DSM program from the point of view of Idaho Power and its customers as a whole.

<sup>&</sup>lt;sup>e</sup> Average Demand = Annual Energy/8,760 annual hours.

Peak Demand is reported for programs that directly reduce load or measure demand reductions during summer peak season. Peak demand reduction for demand response programs is reported at the generation level assuming 13 percent peak line losses.

<sup>&</sup>lt;sup>1</sup> Peak MW achieved based on mid-week load reduction schedule.

<sup>&</sup>lt;sup>2</sup> B/C ratios reflect impacts of the 28 percent realization rate for years 2008–2010 from the ADM Associates, Inc., 2011 impact evaluation.

<sup>&</sup>lt;sup>3</sup> UC reflects collected funds on previous bad loan write-offs.

<sup>&</sup>lt;sup>4</sup> UC reflects only audit and administration costs; there was no further activity in 2006.

<sup>&</sup>lt;sup>5</sup> Levelized cost calculation includes bad loan write-off expense and funds collected from previously written off loans.

<sup>&</sup>lt;sup>6</sup> Resource costs are restated for 2010 based on a calculation error of the non-Idaho Power measure costs.

<sup>&</sup>lt;sup>7</sup> Beginning in 2005, BPA funds were no longer applied to CAP agency payments.

<sup>&</sup>lt;sup>8</sup> Oregon statutory program. The company does not monitor customer implementation of audit recommendations and thus does not estimate savings for this program. Audit expenses not involving outside contractor services are booked to general customer service.

<sup>&</sup>lt;sup>9</sup> Measure life is weighted life (based on energy savings) of custom option (15 years) and menu options (5 years).

<sup>&</sup>lt;sup>10</sup> Savings were adjusted by NEEA in 2011.

<sup>&</sup>lt;sup>11</sup> Savings are preliminary estimates provided by NEEA.

**Appendix 5.** 2011 DSM program activity by state jurisdiction

		Idal	ho			Oı	rego	n	
Program	P	articipants	Utility Costs	Demand Reduction/ Annual Energy Savings		Participants		Utility Costs <sup>a</sup>	Demand Reduction/ Annual Energy Savings
Demand Response				(MW)					(MW)
A/C Cool Credit	37,259	homes	\$ 2,781,553	23.7	469	homes	\$	114,989	0.3
Irrigation Peak Rewards	2,296	service points	11,830,109	313.7	46	service points		256,113	6.3
FlexPeak Management	104	sites	1,954,850	44.9	7	sites		102,880	13.9
Total			\$ 16,566,512	382.3		382.3	\$	473,982	20.5
Energy Efficiency				(kWh)					(kWh)
Residential									
Ductless Heat Pump Pilot	127	homes	\$ 183,260	444,500	4	homes	\$	7,923	14,000
Energy Efficient Lighting	1,006,148	bulbs	1,668,328	19,067,758	33,607	bulbs		50,805	626,623
Energy House Calls	841	homes	447,229	1,164,397	40	homes		36,146	49,607
ENERGY STAR® Homes Northwest	308	homes	255,405	728,030	0	homes		4,357	0
Heating & Cooling Efficiency Program	128	projects	188,876	723,922	2	projects		6,894	9,483
Home Improvement Program	2,275	homes	666,041	917,519	0	homes		0	0
Home Products Program	15,476	appliances/fixtures	619,764	1,446,909	420	appliances/fixtures		18,559	38,417
Oregon Residential Weatherization	0	homes	0	0	8	homes		7,926	21,908
Rebate Advantage	22	homes	59,241	140,211	3	homes		4,228	19,114
See ya later, refrigerator <sub>®</sub>	3,362	refrigerators/freezers	634,967	1,669,394	87	refrigerators/freezers		19,426	43,029
Weatherization Assistance for Qualified Customers	273	homes/non-profits	1,278,112	2,648,676	14	homes/non-profits		46,303	134,972
Weatherization Solutions for Eligible Customers	117	homes	790,454	1,141,194	0	homes		-2,306	0
Total			\$ 6,791,677	30,092,509			\$	200,261	957,153
Commercial									
Building Efficiency	63	projects	\$ 1,277,422	11,514,641	0	projects	\$	14,003	0
Easy Upgrades	1,687	projects	4,598,019	38,005,726	45	projects		121,447	717,347
Holiday Lighting	6	projects	2,568	66,189	0	projects		0	0
Oregon Commercial Audits	0	audits	0	0	12	audits		13,597	0
Total			\$ 5,878,009	49,586,556			\$	149,047	717,347
Industrial									
Custom Efficiency	153	projects	\$ 7,398,198	56,682,999	13	projects	\$	1,385,613	11,296,158
Total			\$ 7,398,198	56,682,999			\$	1,385,613	11,296,158

#### **Appendix 5**. 2011 DSM program activity by state jurisdiction (continued)

		Idaho		Oregon				
Program	Participants	Utility Costs	Demand Reduction/ Annual Energy Savings (kWh)	Participants	Utility Costs <sup>a</sup>	Demand Reduction/ Annual Energy Savings (kWh)		
Energy Efficiency								
Irrigation								
Irrigation Efficiency Rewards	849 projects	\$ 2,182,181	13,350,501	31 projects	\$ 178,123	629,332		
Total		\$ 2,182,181	13,350,501		\$ 178,123	629,332		
Market Transformation								
Northwest Energy Efficiency Alliance <sup>1</sup>		\$ 2,952,973	15,303,876		\$ 155,420	805,467		
Other Programs and Activities								
Residential								
Residential Economizer Project		\$ 101,612			\$ 101			
Residential Energy Efficiency Education Initiative		151,791			7,854			
Commercial								
Commercial Education Initiative		85,340			4,516			
Comprehensive Lighting		2,404						
Other								
Energy Efficiency Direct Program Overhead		199,957			10,520			
Local Energy Efficiency Funds	1 project	1,026	2,028	0 projects				
Total Direct Program Expense		\$42,311,681			\$ 2,565,436			
Indirect Program Expense		1,328,013			61,122			
Total Annual Savings			165,018,470			14,405,457		
Total DSM Expense		\$43,639,694			\$ 2,626,558			

<sup>&</sup>lt;sup>a</sup> Levelized Costs are based on financial inputs from Idaho Power's 2011 IRP and calculations include line-loss-adjusted energy savings.

<sup>&</sup>lt;sup>1</sup> Savings are preliminary estimates provided by NEEA. Oregon is credited with 5 percent of annual NEEA savings.

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